



PROGRESSIVE DESIGN-BUILD CONTRACT

FOR

**HEADWORKS ELECTRICAL DISTRIBUTION
IMPROVEMENTS AT PLANT NO. 2**

PROJECT NO. P2-141

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PROGRESSIVE DESIGN-BUILD CONTRACT

BETWEEN ORANGE COUNTY SANITATION DISTRICT AND BIG SKY ELECTRIC, INC./FILANC A JOINT VENTURE FOR THE HEADWORKS ELECTRICAL DISTRIBUTION IMPROVEMENTS AT PLANT NO. 2, PROJECT NO. P2-141

This Progressive Design-Build Contract ("Contract") is made and entered into this 22nd day of April, 2026 ("Effective Date") by and between the Orange County Sanitation District (hereinafter referred to as "OC SAN") and BIG SKY ELECTRIC, INC./FILANC A JOINT VENTURE (hereinafter collectively referred to as "Design-Builder"). OC SAN and Design-Builder are sometimes individually referred to as "Party" and collectively as "Parties."

RECITALS

- A. OC SAN is a public agency of the State of California and is in need of turnkey design and construction for the Headworks Electrical Distribution Improvements at Plant No. 2, Project No. P2-141 ("Project"), which will include two phases: (1) preconstruction design phase services and final design services ("Phase 1"); and (2) construction services to complete the Project ("Phase 2"), each of which are more fully described in the Contract Documents (collectively, "Services").
- B. OC SAN is authorized by Public Contract Code section 22185 *et seq.* to use progressive design-build contracting on the Project and issued a request for proposals ("RFP") to interested and qualified teams to submit a proposal ("Proposal").
- C. OC SAN has awarded this Contract to Design-Builder based on Design-Builder's Proposal in response to the RFP.
- D. During Phase 1, Design-Builder shall perform Phase 1 Services consistent with the requirements of the Contract Documents, during or after which Design-Builder shall prepare and propose to OC SAN on an Open Book Basis a Guaranteed Maximum Price ("GMP") to complete Phase 2 Services and, if accepted by OC SAN, the Parties shall enter into an amendment to the Contract for Design-Builder's performance of Phase 2.
- E. In entering into this Contract, the Parties expressly agree that OC SAN is under no obligation to proceed with Phase 2.
- F. Design-Builder warrants and represents that it is duly licensed in the State of California and is able and qualified to perform the Services for the Project.
- G. The Parties desire to enter into this Contract for the purpose of setting forth the terms and conditions upon which Design-Builder will complete the Project.

TERMS

1. CONTRACT DOCUMENTS

1.1 Incorporation of Recitals; Contract Documents

(a) The above-referenced recitals are true and correct and are incorporated into this Contract by this reference. This Contract includes and hereby incorporates in full by reference the following documents which are the "Contract Documents," including all exhibits, drawings, specifications and documents therein, and attachments, addenda, and amendments thereto:

- (i) Progressive Design-Build Contract
- (ii) General Conditions (Attachment 1)
- (iii) Phase 1 Scope of Work (Attachment 2)
- (iv) Special Conditions (Attachment 3)
- (v) Design-Builder's RFP Pricing (Attachment 4)
- (vi) Performance Bond (Attachment 5)
- (vii) Payment Bond (Labor and Materials) (Attachment 6)
- (viii) General Requirements (Attachment 7)
- (ix) Contractor Safety Standards (Attachment 8)
- (x) Human Resources Policies (Attachment 9)
- (xi) GMP Amendment
- (xii) Amendments
- (xiii) Assignment of Work Product License
- (xiv) Design-Builder Certifications from Proposal
- (xv) RFP and all addenda, attachments, and appendices
- (xvi) Change Orders
- (xvii) Permits
- (xviii) Construction Documents

1.2 Use of Defined Terms. Any capitalized term herein not defined in the Contract, or other Contract Documents, shall have the meaning set forth in Article 1 of the General Conditions.

1.3 Integration/Modification. The Contract Documents and any documents specifically incorporated by reference are completely integrated as the complete and exclusive statement of the terms of this Contract. This Contract supersedes all previous contracts, agreements, and/or communications, both oral and written, and constitutes the entire understanding of OC SAN and Design-Builder. No extrinsic evidence whatsoever shall be admissible or used to explain or supplement the terms of this Contract, Contract Documents, or any items incorporated by reference.

2. DESIGN-BUILDER'S SERVICES AND RESPONSIBILITIES

2.1 Phase 1

(a) Phase 1 Services. Design-Builder promises and agrees to furnish to OC SAN all labor, materials, tools, equipment, services, and incidental and customary work necessary to fully and adequately perform Phase 1 and complete Phase 1 Services consistent with the requirements in the Contract Documents. The Phase 1 Services are more particularly described in the Contract Documents, including, without limitation, the Phase 1 Scope of Work in Attachment 2.

(b) Phase 1 Commencement. Design-Builder shall commence the performance of Phase 1 Services upon OC SAN's issuance of a Notice to Proceed for a portion of or for the entirety of services for Phase 1. OC SAN has no obligation to issue a Notice to Proceed for Phase 1 Services. All Phase 1 Services performed by Design-Builder prior to OC SAN's issuance of a Notice to Proceed shall be at Design-Builder's sole risk.

(c) Phase 1 Amendments. Phase 1 Services shall be performed pursuant to a Notice to Proceed issued by OC SAN. Modifications and or additions to the Phase 1 Scope of Work must be agreed upon and approved Amendments shall be issued, if applicable, in a form provided by OC SAN and shall be subject to all terms and conditions of the Contract Documents. No compensation shall be provided for any modified and/or added Phase 1 Services unless authorized by a fully executed Amendment.

(d) Phase 1 Term. Design-Builder shall complete the Phase 1 Work within five hundred ninety-four (594) Days of OC SAN's issuance of the Notice to Proceed. Design-Builder shall not be entitled to any costs due to any impacts, disruption, or delays occurring during performance of Phase 1 Services. If OC SAN or any other party exceeds or fails to meet any time limit provided in the Contract Documents for performance of any action during Phase 1 Services, Design-Builder's sole remedy shall be an adjustment of the time period for performance of Phase 1 Services. Any delay that occurs during Phase 1 shall have no impact on OC SAN's right to terminate Phase 1 at any time as provided in the General Conditions.

(e) Early Purchase Items; Early Construction Packages. The Parties may agree to have Design-Builder procure Early Purchase Items and perform Early Construction Packages prior to commencing Phase 2 by executing an Early Purchase Item Amendment or Early Construction Package Amendment, as applicable.

2.2 Phase 2

(a) Commencement of Phase 2. Design-Builder shall not commence Work for Phase 2 until OC SAN executes a Phase 2 GMP Amendment and issues a Notice to Proceed for

Phase 2. Design-Builder may request a Notice to Proceed with Construction Work prior to completion of the 100% Construction Documents, and OC SAN may issue the same with acceptance by Design-Builder, provided that Design-Builder shall not construct any portion of the Project until the design of such portion has been issued Governmental Approvals and OC SAN's approval for construction.

(b) Work Packages. OC SAN and Design-Builder may agree to complete the Construction Work with individual Work Packages. Each Work Package would be a discrete and defined portion of the Project that includes its own GMP and Milestone Date, agreed to by the Parties in a GMP Amendment. OC SAN may issue Work Packages that Design-Builder can perform concurrently.

(c) Final Completion Date. Design-Builder shall complete Phase 2 within the Final Completion Date. As of the Effective Date, the Final Completion Date has not been agreed to by the Parties. The Final Completion Date will be established in a Phase 2 GMP Amendment and it shall run from the Notice to Proceed for Phase 2 even if issued prior to completion of the 100% Construction Documents.

3. DESIGN-BUILDER'S COMPENSATION

3.1 Phase 1 Compensation

(a) OC SAN shall pay Design-Builder a lump sum amount of **Three Million Nine Hundred Two Thousand Two Hundred Dollars (\$3,902,200)** for performance of the Phase 1 Services based on the Work satisfactorily performed and accepted by OC SAN pursuant to the Contract Documents, subject to any additions or deductions as provided in the Contract Documents ("Phase 1 Fee"). The Phase 1 Fee includes any and all costs and expenses required to provide the Phase 1 Services. OC SAN shall not be liable to Design-Builder for any other costs or expenses paid or incurred by Design-Builder in performing Phase 1 Services, except as expressly provided for in this Contract.

3.2 Phase 2 Compensation

(a) Construction Phase Compensation. Design-Builder's compensation for Phase 2 Services shall be Phase 2 Price as further described, and subject to, the limitations set forth below and as indicated in the Contract Documents. Design-Builder expressly agrees and acknowledges that, as of the Effective Date, Design-Builder is not entitled to any compensation for Phase 2 Services, and shall only be entitled to such compensation if: (1) OC SAN accepts the Design-Builder's Phase 2 Price Proposal; (2) the Parties execute, and the General Manager approves, a Phase 2 GMP Amendment; and (3) OC SAN issues a Notice to Proceed for Phase 2.

4. DESIGN-BUILDER'S LICENSE AND REGISTRATION

Design-Builder shall have only appropriately licensed contractors performing work on the Project as required by the Business and Professions Code. Design-Builder (License No. CA#932532) shall act as the licensed contractor for the Project. Design-Builder shall perform all services required under the Contract Documents in a skillful and competent manner, consistent with the standards generally recognized as being employed by professionals qualified to perform such services in the same discipline in the State of California, and the Design-Builder shall be fully responsible to OC SAN for any damages and/or delays to the Project as specified in the Contract. The licensed contractor shall be registered with the Department of Industrial Relations to perform public work (DIR Registration No. 1000027842).

5. DESIGN-BUILDER'S DESIGN PROFESSIONAL

Design-Builder shall name a specific person to act as the Design Manager as described in the General Conditions, subject to the approval of OC SAN. Design-Builder hereby designates Chris Kindle (**License No.: CA#17946**) to act as the Design Manager for the Project. Design-Builder's Design Manager shall perform all Design Work required under the Contract Documents in a skillful and competent manner, consistent with the standards generally recognized as being employed by professionals qualified to perform such services in the same discipline in the State of California, and Design-Builder shall be fully responsible to OC SAN for any damages and/or delays to the Project as specified in the indemnification provisions of the Contract. Any change in the Design Manager shall be subject to OC SAN's prior written approval, which approval shall not be unreasonably withheld. The new Design Manager shall be of at least equal competence as the prior Design Manager. In the event that OC SAN and Design-Builder cannot agree as to the substitution of a new Design Manager, OC SAN shall be entitled to terminate this Contract as described in the General Conditions.

6. NOTICES

Any notice required or permitted under this Contract shall be served by personal delivery or by certified mail, return receipt requested, at the address set forth below. Unless specified elsewhere in the Contract Documents or otherwise required by law, any notice may alternatively be given by electronic telecommunication to the email address set forth below. Any Party whose address changes shall notify the other Party in writing.

TO OC SAN: Orange County Sanitation District
18480 Bandilier Circle
Fountain Valley, California 92708
Attn: Clerk of the Board
ocsanclerk@ocsan.gov

Copy to: Orange County Sanitation District
18480 Bandilier Circle
Fountain Valley, California 92708
Attn: Construction Manager
rcuellar@ocsan.gov

Scott C. Smith
Best Best & Krieger LLP
18101 Von Karman Avenue, Suite 1000
Irvine, California 92612
scott.smith@bbklaw.com

TO DESIGN-BUILDER: Larry Strohm, President
BIG SKY ELECTRIC / FILANC A JOINT VENTURE
310 McArthur Way, Suite A
Upland, CA 91786
lstrohm@bigskyelectric.com
clivingston@bigskyelectric.com

7. AUTHORITY OF SIGNATORIES

The persons executing this Contract on behalf of their respective Parties represent and warrant that they have the authority to do so under law and from their respective Parties.

[SIGNATURES FOLLOW ON NEXT PAGE]

**SIGNATURE PAGE TO PROGRESSIVE DESIGN BUILD CONTRACT BETWEEN THE
ORANGE COUNTY SANITATION DISTRICT AND BIG SKY ELECTRIC, INC./FILANC A
JOINT VENTURE.**

IN WITNESS WHEREOF, the Parties hereby execute this Progressive Design-Build
Contract as of the Effective Date.

ORANGE COUNTY SANITATION DISTRICT

**BIG SKY ELECTRIC, INC./FILANC A JOINT
VENTURE**

By: _____

RYAN P. GALLAGHER
Board Chairman

By: _____

LARRY STROHM

Its: _____

By: _____

KELLY A. LORE
Clerk of the Board

By: _____

ROBERT ZAISER

Its: _____

By: _____

KEVIN WORK
Purchasing & Contracts Manager

Contractor's License Number _____

DIR Registration Number _____

ATTACHMENT 1

GENERAL CONDITIONS

**ATTACHMENT 1
GENERAL CONDITIONS**

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ARTICLE 1 - DEFINITIONS

1.1 Applicability

- A. These General Conditions govern Phase 1, Phase 2, and completion of the Project by Design-Builder.

1.2 Defined Terms

- A. Wherever used in the Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof. In addition to terms specifically defined below, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.
 - 1. Act of God – Act of God is an earthquake of magnitude 3.5 or higher on the Richter Scale or a tidal wave.
 - 2. Allowance – A sum used by OC SAN for categories of Construction Work that cannot be established at the time of a GMP Amendment.
 - 3. Amendment – An order issued by OC SAN that authorizes Design-Builder to proceed with certain Work. There may be multiple Amendments for multiple GMPs.
 - 4. Applicable Laws – The laws, statutes, ordinances, rules, codes, regulations, permits, and licenses of any kind, issued by local, state, or federal governmental authorities, or private authorities with jurisdiction (including utilities), to the extent they apply to the Project.
 - 5. As-Built Drawings – A copy of the Construction Documents used by Design-Builder to record changes to the Work as specified in the General Requirements.
 - 6. Background Documents – Key documents provided to Design-Build Entity prior to the commencement of Phase 1 to further understand the requirements of the Project.
 - 7. Beneficial Occupancy – The intended use of a building, system, structure, or facility by OC SAN prior to Final Completion.
 - 8. Board – Board of Directors.
 - 9. Board of Directors – The Board of Directors of the Orange County Sanitation District, which is authorized to award a Contract.
 - 10. Change Order – A written order by OC SAN's Representative, made bilaterally by OC SAN and Design-Builder or unilaterally by OC SAN, that authorizes an addition, deletion, or revision in the Work or an adjustment in the Phase 1 Fee,

GMP, Contract Price, or the Contract Time in accordance with the Contract Documents. Change Order and Amendment may be used interchangeably.

11. Change Order Request – A request made by Design-Builder for an adjustment in the Phase 1 Fee, GMP, Contract Price, or Contract Time as the result of a Design-Builder-claimed change to the Work. The term Change Order Request and Request for Change may be used interchangeably.
12. Concurrent Delay – When the OC SAN caused delay to the Critical Path occurs simultaneously with a Design-Builder caused delay to the Critical Path.
13. Construction Documents – The Plans and Specifications prepared by Design-Builder for the Project and accepted by OC SAN and incorporated into the Contract through a GMP Amendment. The Construction Documents shall set forth in detail all items necessary to complete the construction (other than such details customarily provided by others during construction) of the Project in accordance with the Contract Documents. Following commencement of Phase 2, Construction Documents become part of the Contract Documents upon their completion and acceptance by OC SAN. All amendments and modifications to the Construction Documents must be approved by OC SAN in writing.
14. Construction Work – That portion of the Work on the Project consisting of the provision of labor, materials, furnishings, equipment, and services in connection with the construction of the Project as set forth in the Contract Documents.
15. Contract – The entire integrated written agreement between OC SAN and Design-Builder concerning the Work. “Contract” may be used interchangeably with “Agreement”, “Progressive Design-Build Contract”, or “PDB Contract” in the Contract Documents.
16. Contract Price – The sum total of all compensation due to Design-Builder for all Phase 1 Services and Phase 2 Services under the Contract.
17. Contract Time – The number of days or the dates stated in the Contract Documents or GMP Amendment to achieve defined Milestone Dates, if any, and to complete the Work by the Final Completion Date.
18. Cost of Work – The Direct Cost, General Conditions Cost, and Subcontractor Construction Cost incurred in the performance of Work and more particularly described in the General Conditions.
19. CPM Schedule – A scheduling method that uses a network diagram to depict the sequences of tasks required to complete the Project, or a portion thereof, which are known as paths. Once the paths are defined, the duration of each path is calculated by an algorithm to identify the Critical Path, which determines the total duration of the Project, or a portion thereof.
20. Critical Path – A continuous sequence of schedule network activities with the least amount of total float, ending at a milestone.

21. Critical Supply Shortage – An unusual shortage in materials that is (a) supported by documented proof that Design-Builder made every effort to obtain such materials from all available sources; (b) such shortage is due to the fact that such materials are not physically available from single or multiple sources or could have been obtained only at exorbitant prices entirely inconsistent with current and standard rates taking into account the quantities involved and the usual industry practices in obtaining such quantities; and (c) such shortages and the difficulties in obtaining alternate sources of materials could not have been known or anticipated by Design-Builder at the time it entered a GMP Amendment. Market fluctuations in prices of materials, whether or not resulting from a Force Majeure Event, does not constitute a Critical Supply Shortage.
22. Day – A calendar day of 24 hours measured from midnight to the next midnight.
23. Defective Work – Work that is unsatisfactory, faulty, or deficient; or that does not conform to the Contract Documents; or that does not meet the requirements of any inspection, reference standard, test, or approval referenced in the Contract Documents.
24. Design-Build Team or Project Team – The Design-Builder and the individuals and other entities identified by Design-Builder as members of its team, including, but not limited to, Key Firms, Subcontractors, and Key Personnel.
25. Design-Builder – The individual or entity with which OC SAN has contracted for performance of the Work.
26. Design-Builder Contingency – An amount approved by OC SAN and part of a GMP that Design-Builder may use with the written approval of OC SAN for unanticipated work as further described in the Contract Documents.
27. Design-Builder Representative – The person or firm identified as the primary contact person and representative of Design-Builder as designated in the Contract Documents and who shall not be changed without prior written consent of OC SAN.
28. Design-Builder's Fee – Design-Builder's fee for its home office overhead and profit applied to Cost of Work, as further described in the Contract Documents.
29. Design-Builder's Proposal – The proposal submitted by Design-Builder in response to the RFP.
30. Designer of Record or Lead Designer – The individual, partnership, corporation, joint venture, or other legal entity of the Design-Build Team completing the Design Work on the Project and who provides the Design Manager for the Project.
31. Design Manager – The individual named in the Contract, and provided by the Designer of Record, who will provide the required architectural, engineering, and

other professional services required for the coordinated design of the Project and the administration of construction.

32. Design Work – The portion of the Work on the Project consisting of the design services and design deliverables required to be provided in connection with the design of the Project as set forth in the Contract Documents.
33. Differing Site Conditions – Concealed or latent physical conditions or subsurface conditions at the Site that: (i) Design-Builder believes may be hazardous waste, as defined in Section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law; (ii) materially differ from those indicated in the Construction Documents or (iii) are of an unusual nature, differing materially from the conditions ordinarily encountered and generally recognized as inherent in the Work. The term Differing Site Conditions does not include, among other things, conditions of which Design-Builder had knowledge of as of the applicable GMP Amendment date, including conditions that could reasonably have been known, discovered, or revealed as a result of the examinations, investigations, explorations, tests, or studies of the Site required to be performed by Design-Builder as part of Design Work or that Design-Builder could have reasonably inferred based on its experience and expertise.
34. Direct Cost – Verifiable cost necessarily incurred in the performance of Construction Work and more particularly described in the General Conditions.
35. Draft Progressive Design-Builder Contract or Draft PDB Contract – The draft progressive design-build contract for the Project, including all of its exhibits, presented as an attachment to the RFP.
36. Early Construction Package – Construction Work negotiated separately from Phase 2 to commence demolition, grading, site preparation, utility work, mobilization, or other work prior to the start of Phase 2. Design-Builder shall perform an Early Construction Package subject to the requirements of the Contract Documents for Construction Work.
37. Early Construction Package Amendment – An approved amendment to the Contract authorizing Design-Builder to perform an Early Construction Package subject to the requirements of the Contract Documents for Construction Work.
38. Early Purchase Item – Long lead procurement items (manufactured/fabricated items, equipment, materials and supplies) for the Project procured by Design-Builder during Phase 1 as further described in the General Conditions.
39. Early Purchase Item Amendment – An approved amendment to the Contract authorizing Design-Builder to commence procurement of an Early Purchase Item.
40. Effective Date of the Contract – The date indicated in the Contract on which it becomes effective, but if no such date is indicated, it means the date on which

the Contract is signed and delivered by the last of the two parties to sign and deliver.

41. Extra Work – New or unforeseen Work, or added Work of a different character or function and for which no basis for payment is prescribed in the Contract Documents; or that involves revisions of the details of the Work.
42. Final Acceptance – Action taken by OC SAN's General Manager, or as delegated pursuant to OC SAN's current Purchasing Ordinance and any amendments thereto, accepting Final Completion.
43. Final Completion – The time at which Work has been entirely completed by Design-Builder, at the sole discretion of OC SAN, as further described in the Contract Documents.
44. Final Completion Date – The time within which Design-Builder must achieve Final Completion of the Project.
45. Force Majeure Event – An event that materially affects a Party's performance and is one or more of the following: (1) Acts of God or other natural disasters occurring at the Site; (2) terrorism or other acts of a public enemy; (3) orders of governmental authorities (including, without limitation, unreasonable and unforeseeable delay in the issuance of permits or approvals by governmental authorities that are required for the Work); (4) pandemics, epidemics, or quarantine restrictions; (5) strikes and other organized labor action occurring at the Site and the effects thereof on the Work, only to the extent such strikes and other organized labor action are beyond the control of Design-Builder and its Subcontractors, of every Tier, and to the extent the effects thereof cannot be avoided by use of replacement workers; and (6) a Critical Supply Shortage. For purposes of this section, "orders of governmental authorities," includes ordinances; emergency proclamations and orders; rules to protect the public health, welfare, and safety; and other actions of OC SAN in its capacity as a municipal authority.
46. General Conditions – Legal and contractual instructions to Design-Builder setting forth both Design-Builder and OC SAN responsibilities for business-related activities pertaining to the Contract. The term "General Conditions" used in the Specifications shall be interpreted to refer to the General Conditions of the Contract Documents.
47. General Conditions Cost – The costs for activities, facilities, and services required to support the Construction Work and manage the Project site, without mark-up, which shall include, without limitation, those items listed in a GMP Amendment as further described in the Contract Documents.
48. General Manager – The individual designated by the OC SAN Board of Directors as its chief executive officer and agent.

49. General Requirements – Legal and contractual instructions to Design-Builder setting forth both Design-Builder and OC SAN responsibilities for technical aspects of the Work indicated under the Contract. The term “General Requirements” used in the Specifications shall be interpreted to refer to the General Requirements of the Contract Documents.
50. Governmental Approvals – Any permit, license, authorization, consent, certification, exemption, grant, waiver, ruling, entitlement, variance or other approval; and any revision, modification, amendment, supplement, renewal, or extension of any of the foregoing, issued by a Governmental Body of whatever kind and however described, which is required under Applicable Law to be obtained or maintained by any person with respect to the Project.
51. Governmental Body – Any federal, state, regional or local legislative, executive, judicial or other governmental board, department, agency, authority, commission, administration, court or other body, or any official thereof, other than the Board of Directors, having jurisdiction in any way over or in respect of any aspect of the performance of the Contract or the Project.
52. Guaranteed Maximum Price or GMP – The maximum possible compensation paid by OC SAN to Design-Builder for the performance and completion of Work, subject to any additions or deductions as provided in the Contract Documents. There may be more than one GMP on the Project, which may be specific to a particular Work Package.
53. GMP Amendment – A written amendment duly executed by the Parties resulting from Design-Builder submitting a GMP Proposal and the Parties agreeing to a mutually acceptable GMP. There may be more than one GMP Amendment on the Project. The term Amendment and GMP Amendment may be used interchangeably.
54. GMP Proposal – Design-Builder’s proposal to OC SAN to complete Work or a portion of the Work, and further described in the Contract Documents. The term GMP Proposal and/or Price Proposal may be used interchangeably.
55. Holidays – Holidays occur on:
- New Year’s Day - January 1
Martin Luther King Jr. Day – Third Monday of January
President’s Day – Third Monday of February
Memorial Day - Last Monday in May
Independence Day - July 4
Labor Day - First Monday in September
Veteran’s Day - November 11
Thanksgiving Day - Fourth Thursday in November
Friday after Thanksgiving
Christmas Eve - December 24
Christmas Day - December 25

If any Holiday listed above falls on a Saturday, Saturday and the preceding Friday are both Holidays. If the Holiday should fall on a Sunday, Sunday and the following Monday are both Holidays. OC SAN reserves the right to recognize additional Holidays without prior notice.

56. Inspector – The individual(s) designated by OC SAN's Representative as the field Project representative with delegated authority to enforce the requirements of the Contract Documents, subject to the approval of the General Manager.
57. Key Firms – Firms fulfilling the key roles that must be identified in the Proposal and are committed to work on the Project if Proposer is selected as the Design-Builder.
58. Key Personnel – Design-Builder's personnel identified as key to the overall success of the Project, and, at a minimum, including those positions defined as Key Personnel in Design-Builder's Proposal. Key Personnel are specifically identified in the Special Conditions.
59. Key Subcontractor – A Subcontractor identified in Design Builder's Proposal that Design Builder contracts with to fulfill a key role in Design Builder completing the Project. If any, Key Subcontractors are identified in the Special Conditions.
60. Laboratory – The materials testing laboratory authorized by OC SAN to test material and Work involved in a Contract.
61. Lead Contractor – The individual, partnership, corporation, joint venture, or other legal entity of the Design-Build Team that is licensed as a California general contractor and is the prime contractor for construction services for the Project.
62. Liens – Charges, security interests, or encumbrances upon Project funds or personal property, including, without limitation, Stop Payment Notices.
63. Lump Sum Price – If allowed by OC SAN as a substitute for a GMP, the maximum possible compensation paid by OC SAN to Design-Builder for the performance and completion of Work, subject to any additions or deductions as provided in the Contract Documents. There may be more than one Lump Sum Price on the Project, which may be specific to a particular Work Package.
64. Milestone Date – The date upon which Design-Builder is required to complete an Early Construction Package, Work, Work Package, or particular element or component of the Project. A Milestone Date may be defined as a date certain or as a number of calendar days or working days from a Notice to Proceed or other event.
65. Minimum Requirements – The requirements set forth in the RFP that, at a minimum, must be satisfied (or waived by OC SAN) in order for the Proposal to be evaluated and ranked according to the comparative evaluation criteria.

- 66. Notice of Completion – The form which may be executed by OC SAN and recorded by the county where the Project is located constituting Final Acceptance of the Project.
- 67. Notice to Proceed – A written notice given by OC SAN to Design-Builder fixing the date on which Design-Builder may proceed with a Phase, Early Construction Package, Early Purchase Item, GMP, Work, Work Package, or a particular element or component of the Project, and when the Contract Time will commence to run.
- 68. OC SAN – Orange County Sanitation District.
- 69. OC SAN's Representative – The person designated by OC SAN to act as its representative during the performance of the Contract, and identified in the Special Conditions, or other person authorized to act for and on behalf of OC SAN, acting either directly or through properly authorized agents, such agents acting severally within the scope of the particular duties entrusted to them.
- 70. Open Book Basis – Design-Builder's provided information, including estimates and pricing, that shows all assumptions, data, and other substantiation supporting the information presented and that allows OC SAN to check and verify the accuracy of the material presented. This entails all information Design-Builder used to develop the cost under consideration, including labor, fringe benefits, equipment, materials, productivity, estimating factors, allowances, risk, contingency, indirect costs, discount rates, interest rates, inflation, insurance, bonding, fees, overhead, profit, and other items that comprise the cost.
- 71. Owner – Orange County Sanitation District.
- 72. Owner Advisor – Hazen & Sawyer.
- 73. Owner Contact – The sole point of contact between OC SAN and Proposers during the RFP.
- 74. Payment Bond – The labor and materials payment bond provided by Design-Builder's Surety to secure the payment obligations of Design-Builder for Work, as described in and maintained pursuant to the Contract and in the form set forth in the Contract Documents.
- 75. Performance Bond – The performance bond provided by Design-Builder's Surety to secure performance of Work, as described in and maintained pursuant to the Contract and in the form set forth in the Contract Documents.
- 76. Phase – Either Phase 1 or Phase 2.
- 77. Phase 1 – The first phase of the Project requiring Design-Builder to perform and complete the Design Work, as further described in the Phase 1 Scope of Work.

78. Phase 1 CPM Schedule – A CPM Schedule to complete the Phase 1 Services within the Contract Time. The detailed requirements for the Phase 1 CPM Schedule are described in the Contract Documents.
79. Phase 1 Fee – The amount to be paid by OC SAN to Design-Builder as full compensation for performance of Phase 1 Services and completion of the Phase 1 Services, subject to any additions or deductions as provide in the Contract Documents.
80. Phase 2 – The second phase of the Project requiring Design-Builder to commence the Construction Work, and complete the Project, as further described in the Contract Documents.
81. Phase 2 CPM Schedule – A CPM Schedule to complete the Phase 2 Work on the Project within the Contract Time. The detailed requirements for the Phase 2 CPM Schedule are stated in the Contract Documents.
82. Phase 2 Price – The total price established by the Parties for Design-Builder's performance of Phase 2 Work and completion of the Phase 2 Work, in accordance with the Contract Documents and as reflected in a Phase 2 GMP Amendment, subject to any additions or deductions as provided in the Contract Documents. There may be more than one GMP Amendment that is part of the Phase 2 Price.
83. Plans – The graphic and pictorial portions of the Contract Documents showing the design, location, and dimensions of the Work to be done on the Project, generally including plans, elevations, sections, details, schedules, and diagrams prepared as part of the Construction Documents by Design-Builder.
84. Price Proposal – A Proposer's price proposal submitted to OC SAN in response to the RFP, as further described in the RFP.
85. Project – The total design, construction, and performance of the Work and all other requirements of the Contract Documents.
86. Project Organization Chart – A chart submitted by Proposers as part of the Proposal that identifies Key Personnel and the entity affiliation associated with such personnel.
87. Proposal – A Proposer's proposal submitted to OC SAN in response to the RFP, including the Price Proposal and Technical Proposal and all required documents, forms, appendices, and other information requested by OC SAN in the RFP, as further described in the RFP.
88. Proposer – The entity responding to the RFP and submitting a Proposal.
89. Proprietary Meetings – Confidential, one-on-one meetings with Proposers during the RFP procurement, as further described in the RFP.

90. Punch List – A list of items for Work which remain to be replaced or completed in accordance with the requirements for completion of Work.
91. Request for Change – A request made by Design-Builder for an adjustment in GMP, Contract Price, or Contract Time as the result of a Design-Builder-claimed change to the Work. The term Amendment and Change Order may be used interchangeably.
92. Request for Information or RFI – Design-Builder’s written request to OC SAN for clarification about a Project condition.
93. Request for Proposals or RFP – The request for proposals issued by OC SAN for the Project and includes all documents, exhibits, attachments, and addenda thereto.
94. Safety Plan – Design-Builder’s plan for health and safety in implementing the Construction Work, to be developed as part of Phase 1 Services in accordance with the Contract Documents.
95. Schedule of Submittals – A schedule, prepared and maintained by Design-Builder, of required submittals and the time requirements to facilitate scheduled performance of related construction activities.
96. Schedule of Values – A schedule of values allocating the entire Phase 2 Price to the various portions of the Work in Phase 2 and prepared in such a form and supported by such data to substantiate its accuracy as OC SAN may require, subject to adjustment of the Phase 2 Price. A Schedule of Values will be provided with a GMP Proposal and incorporated into a GMP Amendment.
97. Security Plan – Design-Builder’s plan for security at the Site in implementing the Construction Work, to be developed as part of Phase 1 in accordance with the Contract Documents.
98. Selection Committee – Individuals responsible for reviewing, evaluating, and scoring the Technical Proposals for the Project.
99. Self-Performed Construction Work – Construction Work performed by Design-Builder with its own forces in accordance with the Contract Documents.
100. Separate Contractor – A person, or firm, under separate contract with OC SAN performing other work at the Project site which may affect the Work.
101. Site – Lands or areas indicated in the Contract Documents as being furnished by OC SAN upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by OC SAN which are designated for the use of Design-Builder.
102. Specifications – That part of the Construction Documents consisting of written requirements for materials, equipment, systems, standards, and workmanship

as applied to the Work, and certain administrative requirements and procedural matters applicable thereto.

103. Stop Payment Notice – A written notice as defined in Civil Code section 8044.
104. Subcontracted Construction Work – Construction Work performed by Subcontractors, but not Key Subcontractors or Design-Builder, with their own forces in accordance with the Contract Documents.
105. Subcontractor – An individual or entity that has a contract with Design-Builder for performance of any portion of Work and, where applicable, any lower Tier subcontractors performing Services.
106. Subcontractor Construction Cost – Any and all costs by a Subcontractor with a direct contract with Design-Builder to perform Construction Work. What constitutes Subcontractor Construction Cost is further defined in the General Conditions.
107. Substantial Completion – The Work has progressed to the point that OC SAN can beneficially occupy or utilize the Work as a whole for the purpose for which it is intended, and the Work complies with applicable codes and regulations, including, if required, issuance of certificates of occupancy or certificate of suitability for use from the appropriate governmental agencies, as determined by OC SAN's Representative at his/her sole discretion.
108. Supplemental Agreements – Written agreements between OC SAN and the Design-Builder covering schedules, drawings, instructions, alterations, amendments, or extensions to the Contract and including Change Orders.
109. Supplier – A manufacturer, fabricator, supplier, distributor, material man, or vendor having a direct contract with Design-Builder or with any Subcontractor to furnish materials or equipment used in the performance of the Work or to be incorporated in the Work.
110. Surety or Sureties – The bondsmen or party or parties who guarantee the fulfillment of the Contract, or a portion of the Contract, by Performance Bond and Payment Bond and whose signatures are affixed to the bonds.
111. Technical Proposal – A Proposer's technical proposal submitted to OC SAN in response to the RFP, including all required documents, forms, appendices, and other information requested by OC SAN in the RFP, as further described in the RFP.
112. Tier – The contractual level of a Subcontractor, Supplier, or consultant with respect to Design-Builder. For example, a first tier Subcontractor is under subcontract with Design-Builder, a second tier Subcontractor is under subcontract with a first tier Subcontractor, and so forth.

113. Underground Facilities – All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
114. Work – The entire design and construction, or the various separately identifiable parts thereof, required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such design and construction, and furnishing, installing, and incorporating all materials and equipment into such design and construction, all as required by the Contract Documents.
115. Work Package – A package of Work for specific scopes of the Project developed by Designer of Record as part of the Construction Documents that are self-performed by Design-Builder or awarded to a Subcontractor. A Work Package may be a discrete and defined portion of the Project that contains (or will contain) its own GMP and Contract Time for completion.
116. Work Product – All papers, maps, models, estimates, plans, specifications, calculations, designs, studies, surveys, reports, data, notes, computer files, documents, drawings, and other work product developed by Design-Builder pursuant to the Contract Documents, including, but not limited to, the Construction Documents.

1.3 Terminology

- A. The words and terms below are not defined but, when used in the Contract Documents, have the indicated meaning.
 1. The word “furnish,” when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Project site (or some other specified location) ready for use or installation and in usable or operable condition.
 2. The word “install,” when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for the intended use.
 3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for the intended use.
 4. Regardless of whether “furnish,” “install,” “perform,” or “provide” is used in connection with services, materials, or equipment, an obligation of Design-Builder is implied.

- B. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 - CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

2.1 Intent of Contract Documents

- A. Complementary. The Contract Documents are complementary; what is required by one is as binding as if required by all. It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be designed and constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that reasonably may be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the indicated result will be provided by Design-Builder, whether or not specifically called for, at no additional cost to OC SAN.
- B. Completion of Work. Design-Builder shall furnish, unless otherwise provided in the Contract Documents, all materials, implements, machinery, equipment, tools, supplies and labor necessary to the prosecution and completion of the Project. If utilities to equipment or fixtures are not shown but are necessary to operate the equipment or fixtures, the utilities service installation is considered to be part of the Work. The implied Work will conform to the appropriate sections of the Contract Documents. Organization of the Contract Documents into divisions, sections, and articles, and arrangement of drawings shall not control Design-Builder in dividing Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

2.2 Reference Standards; Interpretation of Contract Documents

- A. Standards, Specifications, Codes, Laws, and Regulations. Reference to federal specifications, federal standards, state standards, other standards, specifications, manuals, or codes of any technical society, organization, or association, or to Applicable Laws, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Applicable Laws in effect at the time of the Effective Date, and in case of Work during Phase 2, when the Parties executed a GMP Amendment, except as may be otherwise specifically stated in the Contract Documents.
- B. Responsibilities. No provision of any such standard, specification, manual, or code, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of OC SAN, Design-Builder, or any of their Subcontractors, consultants, agents, or employees, from those set forth in the Contract Documents. No such provision or instruction shall be effective to assign to OC SAN, or any of its officers, directors, members, partners, employees, agents, consultants, or Subcontractors any duty or authority to supervise or direct the performance of Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

- C. Provisions Required by Law. Each and every provision of law required by law to be inserted in the Contract Documents shall be deemed to be inserted herein, and the Contract Documents shall be read and enforced as though it were included herein, and if through mistake or otherwise any such provision is not inserted, or is not correctly inserted, then, upon application of either Party, the Contract shall be amended in writing to make such insertion or correction.
- D. Interpretation of Contract Documents. Unless otherwise stated in the Contract Documents, technical words and abbreviations contained in the Contract Documents are used in accordance with commonly understood design professional and construction industry meanings; nontechnical words and abbreviations are used in accordance with their commonly understood meanings. The Contract Documents may omit modifying words such as “all” and “any,” and articles such as “the” and “an,” but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement. The use of the word “including,” when following any general statement, shall not be construed to limit such statement to specific items or matters set forth immediately following such word or to similar items or matters, whether or not non limiting language (such as “without limitation,” “but not limited to,” or words of similar import) is used with reference thereto, but rather shall be deemed to refer to all other items or matters that could reasonably fall within the broadest possible scope of such general statement. Whenever the context so requires, the use of the singular number shall be deemed to include the plural and vice versa. Each gender shall be deemed to include any other gender, and each shall include a corporation, partnership, trust, or other legal entity, whenever the context so requires. The captions and headings of the various subdivisions of the Contract Documents are intended only for reference and convenience and in no way define, limit, or prescribe the scope or intent of the Contract Documents or any subdivision thereof.

2.3 Order of Precedence

- A. Conflicts. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and the provisions of any standard, specification, manual, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference in the Contract Documents); or the provisions of any Applicable Laws (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Applicable Law).
- B. Resolving Conflicts. In resolving conflicts among any of the Contract Documents, the order of precedence shall be as follows:
1. Permits from other agencies and regulatory requirements as may be required by law;
 2. Amendments, Change Orders, and GMP Amendments, most recent first;
 3. Supplemental Agreements, most recent first;

4. Progressive Design-Build Contract;
 5. Special Conditions;
 6. Construction Documents, as follows:
 - a. Specifications
 - b. Drawings, which shall also be interpreted as follows:
 - (i) Figures govern over scaled dimensions
 - (ii) Detail drawings govern over general drawings
 - (iii) Drawings govern over standard drawings
 - (iv) Drawings govern over shop drawings
 7. Phase 1 Scope of Work;
 8. General Requirements;
 9. General Conditions;
 10. RFP and all addenda, attachments, and appendices;
 11. Design-Builder Certifications from Proposal;
 12. To the extent applicable, in the following order:
 - a. Local agency standards and specifications
 - b. Standard drawings
 - c. Reference documents
- C. Notwithstanding the orders of precedence established above, in the event of conflicts, the higher standard, higher quality, and most expensive shall always apply.

2.4 Amending and Supplementing Contract Documents

- A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof only by a Change Order or amendments allowed by the Contract Documents.
- B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized at no cost to OC SAN, by one or more of the following ways:
 1. OC SAN's Representative's review of a submittal, shop drawing, sample, or substitution request without exception (subject to the provisions of the Contract Documents); or

2. OC SAN's Representative's issuance of a response to an RFI.
- C. However, no review or RFI response will reduce or modify Design-Builder's obligation to fully satisfy and comply with the requirements of the Contract Documents.

2.5 Examining Contract Documents, Project Site

- A. Confirming Contract Documents. OC SAN and Design-Builder acknowledge that the Contract Documents may differ in some respect(s) from the other documents included in the RFP upon which Design-Builder based its Proposal Prior to entering into this Contract, the Parties shall confirm, in writing, the final form of the Contract Documents that are to be utilized. Following the GMP Amendment, once accepted by the Parties, the Construction Documents will become a part of the Contract Documents that defines the entire scope of Work, so long as such documents incorporate all minimum requirements of the Background Documents. Design-Builder shall certify that the Construction Documents are in full compliance with the Contract Documents, except as noted.
- B. Examining Contract Documents. Before commencing any Work on the Project, Design-Builder shall carefully examine the Contract, the Contract Documents, the Background Documents, and other information given to Design-Builder as to Project requirements. Design-Builder shall immediately notify OC SAN's Representative of any perceived or alleged error, inconsistency, ambiguity, or lack of detail or explanation in such documents in writing. Neither Design-Builder nor any Subcontractor shall take advantage of any apparent error or omission which may be found in the Contract, the Contract Documents, the Background Documents, or other information given to Design-Builder. If Design-Builder or its Subcontractors, material or equipment Suppliers, or any of their officers, agents, and employees performs, permits, or causes the performance of any Work under the Contract, which it knows or should have known to be in error, inconsistent, or ambiguous, or not sufficiently detailed or explained, Design-Builder shall bear any and all costs arising therefrom including, without limitation, the cost of correction thereof without increase or adjustment to the GMP or the Contract Time. In no case shall any Subcontractor proceed with Work if uncertain without Design-Builder's written direction and/or approval.
- C. Contract Document Conformance with Laws. Before commencing any Work on the Project, Design-Builder shall check and review the Contract Documents, including the Construction Documents, for conformance and compliance with all laws, ordinances, codes, and rules and regulations of all governmental authorities and public utilities affecting the construction and operation of the physical plant of the Project; all quasi-governmental and other regulations affecting the construction and operation of the physical plant of the Project; and other special requirements, if any, designated in the Contract. In the event Design-Builder observes any violation of any law, ordinance, code, rule or regulation, or inconsistency with any such restrictions or special requirements of the Contract, Design-Builder shall immediately notify OC SAN's Representative in writing of the same and shall cause to be corrected any such violation or inconsistency in the manner provided hereunder. Design-Builder shall be

solely liable for any such violation, inconsistency, or special requirement if Design-Builder fails to conduct such review or notification to OC SAN.

- D. Examination of Project Site. As part of Phase 1 and prior to all GMP Amendments, Design-Builder shall inspect and become familiar with the Site, its physical condition relevant to the obligations of Design-Builder pursuant to the Contract, including surface and subsurface conditions, normal and usual soil conditions, roads, Underground Facilities, topographical conditions, and air and water quality conditions and shall, among other things, review the Contract Documents, including, but not limited to, the Background Documents, relative to the Site. Design-Builder shall be familiar with all local and other conditions which may be material to Design-Builder's performance of the Work (including transportation; seasons and climate; access, availability, disposal, handling, and storage of materials and equipment; and availability and quality of labor); Design-Builder shall have received and reviewed all information regarding the Site provided to or developed by it in connection with the Work pursuant to the Contract; and Design-Builder shall have made all other Site investigations that it deems necessary to make a determination as to the suitability of the Site and to submit a Phase 2 Proposal to OC SAN in accordance with the Contract Documents. Design-Builder's Phase 2 Proposal shall serve as a representation by Design-Builder that, based on the foregoing, the Site constitutes an acceptable and suitable site for the Work and that the Work can be performed on the Site within the Contract Price and in accordance with the Contract Documents, including the schedule requirements of the Contract.
- E. Reporting and Resolving Discrepancies. The Contract Documents are intended to be fully comprehensive and complementary. Before undertaking each part of the Work, Design-Builder shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. Design-Builder shall promptly report in writing to OC SAN any conflict, error, ambiguity, or discrepancy which Design-Builder discovers, should have discovered, or has actual knowledge of, and shall obtain a written interpretation or clarification from OC SAN before proceeding with any Work affected thereby. If, during the performance of the Work, Design-Builder discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (i) any Applicable Law, (ii) any standard, specification, manual, or code, or (iii) any instruction of any Supplier, Design-Builder shall promptly submit a written RFI to OC SAN. Design-Builder shall not proceed with the Work affected thereby (except in an emergency) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in the Contract Documents, and any Work performed by Design-Builder before receipt of an amendment or supplement shall be at Design-Builder's own risk.
- F. Responsibility for Review of Contract Documents. Design-Builder shall be solely responsible for any errors, inconsistencies or omissions in the Contract Documents if Design-Builder fails to perform such review and examination or fails to report such errors, inconsistencies or omissions to OC SAN in writing.

2.6 Reuse of Documents

- A. Design-Builder and any Subcontractor shall not have or acquire any title to or ownership rights in any of the Construction Documents or other documents (or copies of any thereof) prepared by or bearing the seal of the Designer of Record or its consultants, including electronic media editions; or reuse of any such Construction Documents, other documents, or copies thereof on extensions of the Project or any other project without written consent of OC SAN. The prohibitions of this Article will survive final payment and termination of the Contract. Nothing herein shall preclude Design-Builder from retaining copies of the Contract Documents for record purposes.

2.7 Ownership and Use of Construction Documents

- A. Ownership and Use. The Construction Documents, and all copies thereof, furnished to, or provided by, Design-Builder are the property of OC SAN. Design-Builder hereby assigns to OC SAN all right, title, and interest, including any copyrights, patents, and any other intellectual property rights in all Work Product and all ideas, methods, and information specifically developed as Work Product. Design-Builder will take such steps as are necessary to perfect or protect the ownership interest of OC SAN in such Work Product. Upon completion, expiration, or termination of the Contract, Design-Builder shall turn over to OC SAN all such original Work Product in Design-Builder's possession or control. OC SAN shall have unlimited rights, for the benefit of OC SAN, in all Work Product and other Work developed in the performance of the Contract for the Project, including the right to re-use details of the Construction Documents on any other OC SAN work at no additional cost to OC SAN. Design-Builder, for a period up to five (5) years from the date of completion of the Project, agrees to furnish and to provide access to copies of all such materials immediately upon the written request of OC SAN. Any use or reuse by OC SAN of the Construction Documents on any project other than this Project without employing the services of Design-Builder shall be at OC SAN's own risk with respect to third parties. If OC SAN uses or re-uses the Construction Documents on any project other than this Project, it shall remove the Designer of Record's seal from the Construction Documents and hold harmless Design-Builder, Designer of Record, and their officers, directors, agents, and employees from claims arising out of the use or re-use of the Construction Documents on such other project.
- B. Design Subcontractors. To the extent Design-Builder does not directly perform Design Work, Design-Builder shall acquire a license meeting the requirements of this Article 2.7 from each of its designers in order to convey the rights to OC SAN. Further, in the event that a subconsultant to Design-Builder, or any other party that is not in privity with OC SAN under the Contract, maintains any right to a copyright or other intellectual property right in any portion of the Work Product, Design-Builder shall obtain from that party a grant of a non-exclusive and perpetual license in favor of OC SAN as described in Article 2.7 A. above. Design-Builder shall deliver said license to OC SAN prior to the subconsultant or other design entity performing any work on the Project. OC SAN's obligation to compensate Design-Builder shall not commence until the license is delivered.

- C. Use of Design. In accordance with Public Contract Code section 22185.5(c)(2), design professionals responsible for performing Design Work on behalf of Design-Builder shall have sole liability for their design errors and omissions, provided OC SAN elects to use their complete and stamped designs with subsequent design-build entities or licensed contractors.

2.8 Confidential Information

- A. No Unauthorized Disclosure. All information gained or Work Product produced by Design-Builder in the performance of the Contract will be considered confidential, unless such information is in the public domain. Design-Builder shall not release or disclose any such information or Work Product to persons or entities other than OC SAN without the prior written consent of OC SAN, except as otherwise required by law. Design-Builder shall promptly notify OC SAN should Design-Builder, or its representatives, Subcontractors, or Suppliers, be served summons, complaint, subpoena, notice of deposition, request for documents, interrogatories, requests for admissions, or other discovery request or court order from any third party regarding the Contract and the Services performed under the Contract.
- B. Media. Design-Builder shall not comment publicly to the press or any other media or issue any news release or public relations item of any nature whatsoever regarding the Contract without prior review of the contents thereof by OC SAN and receipt of OC SAN's written permission.

ARTICLE 3 -EXECUTION OF CONTRACT; INSURANCE, BONDS, INDEMNIFICATION

3.1 Notice to Proceed

- A. After an approval to award the Contract is granted by OC SAN's Board of Directors (or as delegated pursuant to OC SAN's current Purchasing Ordinance and any amendments thereto) and, when applicable, by the State Water Resources Control Board, OC SAN will forward the Contract to the Design-Builder for execution. Design-Builder shall deliver the executed Contract, along with the specified insurance documents, to OC SAN within fifteen (15) calendar days from the date of award. Upon receipt of all properly executed documents, OC SAN shall execute all documents as necessary, establish the effective date of the Contract, and OC SAN shall issue a Notice to Proceed, unless OC SAN's Representative determines that good cause exists to delay the issuance. In such case, OC SAN may delay issuance of the Notice to Proceed. Said Notice to Proceed shall be forwarded to the Design-Builder by mail or by any other means which shall provide confirmation of a date and time receipt acknowledgment, including, but not limited to, electronic telecommunication. In the event the Design-Builder does not return the executed Contract and insurance within the specified fifteen (15) Day period, OC SAN may reduce the time required for completion, beginning the sixteenth (16th) Day after the Contract is forwarded by OC SAN, on a day-for-day basis.

3.2 Contract Bonds

- A. Generally. Prior to Design-Builder's commencement of Construction Work, Design-Builder shall submit a Performance Bond and Payment Bond on the forms provided with the Contract Documents, duly executed by a responsible corporate surety admitted to transact surety business in the State of California, as defined in Code of Civil Procedure section 995.120, and listed in the United States Department of the Treasury circular entitled "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies," authorized to do business in the State of California and acceptable to OC SAN conditioned upon the faithful performance by Design-Builder of all requirements of the Contract Documents. The obligations of the Performance Bond Surety shall continue so long as any obligation of Design-Builder remains. Nothing herein shall limit OC SAN's rights or Design-Builder's or Surety's obligations under the Contract, law, or equity, including, but not limited to, California Code of Civil Procedure section 337.15.
- B. Amount of Bonds. The Performance Bond and Payment Bond shall each be in a sum no less than one hundred percent (100%) of the Phase 2 Price. No payment will be made to Design-Builder until the bonds have been approved by OC SAN. The amount of the Performance Bond and the Payment Bond shall be increased by Design-Builder to reflect the adjustment to the Phase 2 Price. Design-Builder shall, upon request of OC SAN, cause the amount of the bonds to be increased accordingly and shall promptly deliver satisfactory evidence of such increase to OC SAN. The bonds shall further provide that no change or alteration of the Contract (including, without limitation, an increase in the Phase 2 Price), extensions of time, or modifications of the time, terms, or conditions of payment to Design-Builder will release the Surety. If Design-Builder fails to furnish any required bond, OC SAN may terminate the Contract for cause.
- C. Monitoring of Sureties. Design-Builder shall be responsible throughout the Project for monitoring the financial condition of any Surety issuing bonds under the Contract and for making inquiries no less often than annually to confirm that each such Surety complies with the qualification requirements specified in this Article. In the event any Surety is declared bankrupt, becomes insolvent, or has the rights to do business in the state terminated, Design-Builder shall promptly notify OC SAN of such event and shall promptly take steps to ensure continued compliance with this Article by furnishing or arranging for the furnishing of a substitute or additional bond of a Surety whose qualifications satisfy all above requirements.
- D. Insufficient Bonds. Should, in OC SAN's sole opinion, any bond become insufficient or Surety found to be unsatisfactory, Design-Builder shall renew or replace the affected bond within 10 Days of receiving notice from OC SAN. In the event the Surety or Design-Builder intends to reduce or cancel any required bonds, at least thirty (30) Days prior written notice shall be given to OC SAN, and Design-Builder shall post acceptable replacement bonds at least ten (10) Days prior to expiration of the original bonds. No further payments shall be deemed due or will be made under the Contract until any replacement bonds required by this Article are accepted by OC SAN.

3.3 Insurance

- A. General. Design-Builder shall purchase and maintain, for the duration of the Contract, insurance against claims for injuries to persons and damages to property which may arise from or in connection with the performance of the Work hereunder, and the results of that Work by Design-Builder, its agents, representatives, employees, or Subcontractors, in amounts equal to the requirements set forth below. Design-Builder shall not commence Work under the Contract until all insurance required under this Article is obtained in a form acceptable to OC SAN, nor shall Design-Builder allow any Subcontractor to commence Work on a subcontract until all insurance required of the Subcontractor has been obtained. Design-Builder shall maintain all of the foregoing insurance coverages in force through the point at which the Work under the Contract is fully completed and accepted by OC SAN pursuant to the Contract Documents. Furthermore, Design-Builder shall maintain all of the foregoing insurance coverages in full force and effect throughout the warranty period, commencing on the date of Final Completion. The requirement for carrying the foregoing insurance shall not derogate from the provisions for indemnification of OC SAN by Design-Builder under Section 3.5 of these General Conditions. Notwithstanding nor diminishing the obligations of Design-Builder with respect to the foregoing, Design-Builder shall subscribe for and maintain in full force and effect during the life of the Contract, inclusive of all changes to the Contract Documents made in accordance with the provisions of the General Conditions, the following insurance in amounts not less than the amounts specified. OC SAN reserves the right to amend the required limits of insurance commensurate with the Design-Builder's risk at any time during the course of the Project. No vehicles may enter OC SAN premises/worksite without possessing the required insurance coverage. Design-Builder's insurance shall also comply with all insurance requirements prescribed by agencies from whom permits shall be obtained for the Work and any other third parties from whom third party agreements are necessary to perform the Work (collectively, the "Third Parties"). The Special Conditions may list such requirements and sample forms and requirements from such Third Parties and/or such requirements may be included in an attachment to the General Requirements. Design-Builder bears the responsibility to discover and comply with all requirements of third parties, including meeting specific insurance requirements, that are necessary for the complete performance of the Work. To the extent there is a conflict between the third parties' insurance requirements and those set forth by OC SAN herein, the requirement(s) providing the more protective coverage for both OC SAN and the Third Parties shall control and be purchased and maintained by Design-Builder. If Design-Builder maintains higher limits than the minimums shown in this Section, OC SAN requires and shall be entitled to coverage for the higher limits maintained by the Design-Builder. Where permitted by law, Design-Builder hereby waives all rights of recovery by subrogation because of deductible clauses, inadequacy of limits of any insurance policy, limitations or exclusions of coverage, or any other reason against OC SAN, its or their officers, agents, or employees, and any other contractor or subcontractor performing Work or rendering services on behalf of OC SAN in connection with the planning, development, and construction of the Project. In all its insurance coverages (except for Professional Liability/Errors and Omissions coverages, if applicable) related to the Work, Design-Builder shall include clauses providing that each insurer shall waive all of its rights of recovery by subrogation against OC SAN, its or their officers, agents, or employees, or any other contractor or

subcontractor performing Work or rendering services at the Project. Where permitted by law, Design-Builder shall require similar written express waivers and insurance clauses from each of its Subcontractors of every Tier. A waiver of subrogation shall be effective as to any individual or entity, even if such individual or entity (a) would otherwise have a duty of indemnification, contractual or otherwise, (b) did not pay the insurance premium, directly or indirectly, and (c) whether or not such individual or entity has an insurable interest in the property damaged.

B. Limits of Insurance

1. General Liability. Three Million Dollars (\$3,000,000) per occurrence and a general aggregate limit of Five Million Dollars (\$5,000,000) for bodily injury, personal injury, and property damage. If aggregate limits apply separately to the Contract (as evidenced by submission of ISO form CG 25 03 or CG 25 04), then the aggregate limit may be equivalent to the per occurrence limit. Coverage shall include each of the following:
 - a. Premises-Operations
 - b. Products and Completed Operations, with limits of at least Three Million Dollars (\$3,000,000) per occurrence and a general aggregate limit of Five Million Dollars (\$5,000,000) which shall be in effect at all times during the warranty period set forth in the General Conditions, plus any additional extension or continuation of time to said warranty period that may be required or authorized by said provisions. If aggregate limits apply separately to the Contract (as evidenced by submission of ISO form CG 25 03 or CG 25 04), then the aggregate limit may be equivalent to the per occurrence limit.
 - c. Broad Form Property Damage, expressly including damage arising out of explosion, collapse, or underground damage.
 - d. Contractual Liability, expressly including the indemnity provisions assumed under the Contract.
 - e. Separation of Insured Clause, providing that coverage applies separately to each insured, except with respect to the limits of liability.
 - f. Independent Design-Builder's Liability
 - g. To the extent first dollar coverage, including defense of any claim, is not available to OC SAN or any other additional insured because of any SIR, deductible, or any other form of self-insurance, Design-Builder is obligated to assume responsibility of insurer until the deductible, SIR, or other condition of insurer assuming its defense and/or indemnity has been satisfied. Design-Builder shall be responsible to pay any deductible or SIR.
 - h. If a crane will be used, the general liability insurance will be endorsed to add Riggers Liability coverage or its equivalent to cover the usage of the crane and exposures with regard to the crane operators, riggers, and others involved in using the crane.

- i. If divers will be used, the general liability insurance will be endorsed to cover marine liability or its equivalent to cover the usage of divers.
2. Automobile Liability. The Design-Builder shall maintain a policy of automobile liability insurance on a comprehensive form covering all owned, non-owned, and hired automobiles, trucks, and other vehicles providing the following minimum limit of liability coverage: combined single limit of One Million Dollars (\$1,000,000) for bodily injury, personal injury, and property damage.
3. Umbrella Excess Liability. The minimum limits of general liability and automobile liability insurance required, as set forth above, shall be provided for either in a single policy of primary insurance or a combination of policies of primary and umbrella excess coverage. Excess liability coverage shall be issued with limits of liability which, when combined with the primary insurance, will equal the minimum limits for general liability and automobile liability.
4. Drone Liability Insurance. If a drone will be used, drone liability insurance must be maintained by Design-Builder in the amount of One Million Dollars (\$1,000,000) in a form acceptable to OC SAN.
5. Workers' Compensation/Employer's Liability. Design-Builder shall provide such workers' compensation insurance as required by the Labor Code of the State of California, including employer's liability with a minimum limit of One Million Dollars (\$1,000,000) per accident for bodily injury or disease. If an exposure to Jones Act liability may exist, the insurance required herein shall include coverage with regard to Jones Act claims.
6. Claims Made. If Design-Builder provides coverage written on a claims-made basis, OC SAN has the right to approve or reject such coverage in its own discretion. If written on a claims-made basis, the Design-Builder warrants that any retroactive date applicable to coverage under the policy precedes the effective date of the Contract, and that continuous coverage will be maintained, or an extended discovery period will be exercised, for a period of two years beginning from the time that the Project under the Contract is completed.
7. Errors and Omissions/Professional Liability Insurance. Design-Builder shall maintain in full force and effect, throughout the term of the Contract, standard industry form professional liability / errors and omissions insurance coverage with coverage limits of not less than Two Million Dollars (\$2,000,000) in accordance with the provisions of this paragraph. If the policy of insurance is written on a "claims made" basis, said policy shall be continued in full force and effect at all times during the term of the Contract, and for a period of five (5) years from the date of the completion of the Work hereunder. In the event of termination of said policy during this period, Design-Builder shall obtain continuing insurance coverage for the prior acts or omissions of Design-Builder during the course of performing Work under the terms of the Contract. Said coverage shall be evidenced by either a new policy evidencing no gap in coverage or by separate extended "tail" coverage with the present or new carrier. In the event the present policy of insurance is written on an "occurrence" basis, said policy shall be continued in full force and effect during the term of the Contract or until completion of the Work provided for in the Contract, whichever is later. In the event of termination of said policy during

this period, new coverage shall be obtained for the required period to insure for the prior acts or omissions of Design-Builder during the course of performing Work under the terms of the Contract. Design-Builder shall provide to OC SAN a certificate of insurance in a form acceptable to OC SAN indicating the deductible or self-retention amounts and the expiration date of said policy and shall provide renewal certificates not less than ten (10) Days prior to the expiration of each policy term.

- C. Deductibles and Self-Insured Retentions. Any deductibles or self-insured retentions must be declared to and approved by OC SAN. At the option of OC SAN, either: the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects OC SAN, its directors, officers, agents, consultants, and employees; or Design-Builder shall provide a financial guarantee satisfactory to OC SAN guaranteeing payment of losses and related investigations, claim administration, and defense expenses.

D. Other Insurance Provisions

1. Each such policy of general liability insurance and automobile liability insurance shall be endorsed to contain the following provisions:
 - a. OC SAN, its directors, officers, agents, consultants, and employees, and all public agencies from whom permits will be obtained, and their directors, officers, agents, and employees are hereby declared to be additional insureds under the terms of this policy, but only with respect to the operations of Design-Builder at or from any of the sites of OC SAN in connection with the Contract, or acts and omissions of the additional insured in connection with its general supervision or inspection of said operations related to the Contract.
 - b. Insurance afforded by the additional insured endorsement shall apply as primary insurance, and other insurance maintained by OC SAN shall be excess only and not contributing with insurance provided under this policy.
2. Cancellation and Policy Change Notice. Design-Builder is required to notify OC SAN in writing of any insurance cancellation notice it receives or other knowledge of pending or actual insurance policy cancellation within two (2) working days of receipt of such notice or acquisition of such knowledge. Additionally, the Design-Builder is required to notify OC SAN in writing of any change in the terms of insurance, including reduction in coverage or increase in deductible/SIR, within two (2) working days of receipt of such notice or knowledge of same.

Said notices shall be mailed to OC SAN at:

ORANGE COUNTY SANITATION DISTRICT
18480 Bandilier Circle
Fountain Valley, CA 92708
Attention: Contracts, Purchasing & Materials Management Division

3. Coverage shall not extend to any indemnity coverage for the active negligence of any additional insured in any case where an agreement to indemnify the additional insured would be invalid under California Civil Code section 2782(b).

4. If required by a public agency from whom permit(s) will be obtained, each policy of general liability insurance and automobile liability insurance shall be endorsed to specify by name the public agency and its legislative members, officers, agents, consultants, and employees to be additional insureds.
- E. Acceptability of Insurers. Insurers must have an "A-," or better, Policyholder's Rating, and a Financial Rating of at least Class VIII, or better, in accordance with the most current A.M. Best Rating Guide. OC SAN recognizes that State Compensation Insurance Fund has withdrawn from participation in the A.M. Best Rating Guide process. Nevertheless, OC SAN will accept State Compensation Insurance Fund for the required policy of worker's compensation insurance, subject to OC SAN's option, at any time during the term of the Contract, to require a change in insurer upon twenty (20) Days written notice. Further, OC SAN will require Design-Builder to substitute any insurer whose rating drops below the levels herein specified. Said substitution shall occur within twenty (20) Days of written notice to Design-Builder by OC SAN or its agent.
- F. Verification of Coverage. Design-Builder shall furnish OC SAN with original certificates and mandatory endorsements affecting coverage. Said policies and endorsements shall conform to the requirements herein stated. All certificates and endorsements are to be received and approved by OC SAN before Work commences. OC SAN reserves the right to require, at any time, complete, certified copies of all required insurance policies, including endorsements, affecting the coverage required herein.
- G. Subcontractors. Design-Builder shall be responsible to establish insurance requirements for any Subcontractors hired by Design-Builder. The insurance shall be in amounts and types reasonably sufficient to deal with the risk of loss involving the Subcontractor's operations and work. OC SAN and any public agency issuing permits for the Project must be named as "Additional Insured" on any general liability or automobile liability policy obtained by a Subcontractor. Design-Builder must obtain copies and maintain current versions of all Subcontractors' policies, certificate of liability, and mandatory endorsements effecting coverage. Upon request, Design-Builder must furnish OC SAN with the above-referenced required documents.
- H. Required Forms and Endorsements
 1. Required ACORD Form
 - a. Certificate of Liability
 - (i) ACORD Form 25 or other equivalent certificate of insurance form
 2. Required Insurance Services Office, Inc. Endorsements (when alternative forms are shown, they are listed in order of preference). In the event any of the following forms are cancelled by Insurance Services Office, Inc. (ISO), or are updated, the ISO replacement form or equivalent must be supplied.
 - a. Commercial General Liability

- (i) Form CG 00 01
- b. Additional Insured Including Products-Completed Operations
 - (i) Form CG 20 10 **and** Form CG 20 37. All other additional insured endorsements must be submitted for approval by OC SAN, and OC SAN may reject alternatives that provide different or less coverage to OC SAN.
- c. Waiver of Transfer of Rights of Recovery Against Others to Us/Waiver of Subrogation
 - (i) Form CG 24 04
- 3. Required State Compensation Insurance Fund Endorsements
 - a. Waiver of Subrogation
 - (i) Submit workers' compensation waiver of subrogation endorsement provided by carrier for OC SAN approval.
 - b. Cancellation Notice
 - (i) No endorsement is required. However, Design-Builder is responsible for notifying OC SAN of any pending or actual insurance policy cancellation, as described Cancellation and Policy Change Notice, above.
- 4. Additional Required Endorsements
 - a. Notice of Policy Termination
 - (i) Manuscript Endorsement
- 5. Course of Construction Required Forms (if required)
 - a. Name Insured
 - (i) Evidence Only Certificate

3.4 Design-Builder's Liability Not Limited by Insurance

- A. Nothing contained in these insurance requirements is to be construed as limiting the liability of Design-Builder or Design-Builder's Sureties.

3.5 General Indemnification

- A. Design-Builder shall, with respect to all Work covered by or incidental to these Contract Documents, be responsible for any liability imposed by law and shall indemnify, defend, and hold OC SAN and its consultants, and each of their directors, officers, agents and employees, and all Governmental Bodies issuing permits to the Design-Builder, free and harmless from and against all of the following:

1. Any claim, suit, or action of every name, kind, and description, loss, damage, cost, expenses, including reasonable attorney's fees and expert fees, costs of compliance with administrative orders and directives, litigation, arbitration, awards, fines, and administratively or judicially-imposed penalties or judgments, arising by reason of death or bodily injury to person(s), injury to property, or other loss, damage, or expense, resulting from the construction of the Work, design defects, defects in the Work, or by or on account of acts, errors, or omissions of the Design-Builder or Design-Builder's Subcontractors, Suppliers, employees, invitees, or agents or from any other cause whatsoever arising during the progress of the Work or at any time prior to its completion and Final Completion, excluding any of the same resulting from OC SAN's alleged or actual acts, errors, or omissions regardless of whether on or off of the worksite. Said responsibility shall extend to claims, demands or liability for loss, damage, or injuries occurring or discovered after completion of the Work, as well as during the progress of the Work. However, Design-Builder shall not be obligated under the Contract to indemnify OC SAN or its consultants with respect to the active negligence, sole negligence, or willful misconduct of OC SAN or its consultants.
- B. In addition, if any action is brought against the Design-Builder or any Subcontractor to enforce a stop payment notice or notice to withhold, which names OC SAN as a party to said action, OC SAN shall be entitled to reasonable attorney's fees, costs, and necessary disbursements arising out of the defense of such action by OC SAN. OC SAN shall be entitled to deduct its costs for any stop payment notice filed, whether court action is involved or not.
- C. In any and all claims against the indemnified parties by an employee of the Design-Builder, any Subcontractor, any Supplier, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, the indemnification obligation as specified herein shall not be limited in any way by the amount or type of damages, compensation, or benefits payable by or for the Design-Builder, or any Subcontractor, or any Supplier, or other person under Workers' Compensation acts, disability benefit acts, or other employee acts.
- D. The obligations of Design-Builder as specified herein shall not extend to the liability of consultants or their subconsultants, and each of their directors, officers, agents, and employees, arising out of or resulting from or in connection with the preparation of approval of maps, drawings, opinions, reports, surveys, designs, or specifications, provided that the foregoing was the sole and exclusive cause of the loss, damage, or injury.
- E. Design-Builder shall also be responsible for and shall indemnify, defend, and hold harmless OC SAN, OC SAN's Representative, consultants and their subconsultants, and each of their directors, officers, employees, and agents from and against all losses, expenses, damages (including damages to the Work itself), attorney's fees, and other costs, including all costs of defense, which any of them may incur with respect to the failure, neglect, or refusal of the Design-Builder to faithfully perform the Work and all of the Design-Builder's obligations under the Contract. Such costs, expenses, and damages shall include all costs, including attorney's fees incurred by the indemnified parties in any lawsuit to which they are a party.

- F. In the event Design-Builder or its insurer refuses or fails to provide a legal defense to OC SAN after receiving written notice of the legal action and a tender and demand for defense, OC SAN shall have the right to select counsel of its own choice to represent all the interests of OC SAN at Design-Builder's cost and expense. Design-Builder agrees that the amount of legal costs and expenses, including attorneys' fees, may be withheld by OC SAN from any Contract amounts due and owing to Design-Builder until such time as a final determination is made as to the responsibility for payment of said fees and costs. Design-Builder further agrees that to the extent OC SAN incurs such damages and the damages exceed any remaining Contract amounts due and owing to Design-Builder, Design-Builder shall reimburse OC SAN for all such additional damages upon demand by OC SAN for the same.
- G. Design-Builder's obligation to defend, indemnify, and/or hold harmless arises out of Design-Builder's performance as a "design professional" (as that term is defined under Civil Code section 2782.8), and only to the extent required under Civil Code section 2782.8, which is fully incorporated herein, Design-Builder's indemnification obligation shall be limited to claims that arise out of, pertain to, or relate to the negligence, recklessness, or willful misconduct of Design-Builder, and, upon Design-Builder obtaining a final adjudication by a court of competent jurisdiction, Design-Builder's liability for such claim, including the cost to defend, shall not exceed Design-Builder's proportionate percentage of fault.
- H. Design-Builder and OC SAN agree that nothing in this Article is intended to be or is a prevailing party clause as it pertains to attorney's fees.

3.6 Joint and Several Liability

- A. If the Design-Builder is a joint venture or partnership, each venturer or partner shall be jointly and severally liable for any and all of the duties and obligations of the Design-Builder that are assumed under or arise out of the Contract. Each of such venturers or partners waives notice of the breach or non-performance of any undertaking or obligation of the Design-Builder contained in, resulting from, or assumed under the Contract, and the failure to give any such notice shall not affect or impair such venturer's or partner's joint and several liability hereunder.

3.7 Personal Liability

- A. No director, officer, employee, or agent of OC SAN, or its consultants, shall be personally responsible for any liability arising under or by virtue of the Contract.

ARTICLE 4 - CONTROL OF THE WORK

4.1 Authority of OC SAN's Representative

- A. Generally. OC SAN's Representative serves as the agent of OC SAN and will observe the accomplishment of the Work in accordance with the provisions of the Contract. OC SAN's Representative will decide any and all questions which may arise as to the interpretations of the Contract Documents, as to the quality and acceptability of

materials furnished and Work performed, as to the manner of performance, and as to the rate of progress of the Work. All questions as to the acceptable performance of the Contract on the part of Design-Builder shall be decided by OC SAN's Representative.

- B. Instructions. OC SAN's Representative shall have authority to make minor changes in the Work not involving extra or lesser cost, and not inconsistent with the intent of the Contract Documents. All instructions, rulings, and decisions of OC SAN's Representative shall be in writing, and shall be final and binding on Design-Builder unless formal written objection is made as specified herein.
- C. Authority of OC SAN's Representative. It is expressly agreed that OC SAN's Representative shall not have the power to waive any of the obligations of the Contract Documents for the furnishing by Design-Builder of good and suitable material, and for performing the Work as herein described. Failure or omission on the part of OC SAN's Representative to reject defective or inferior Work or materials, or OC SAN's Representative's release of Design-Builder from obligations to remedy the defective or inferior Work, shall not imply acceptance of the Work.
- D. Board Authority. The Board shall have the final authority in all matters affecting the Work. Within the scope of the Contract Documents, OC SAN's Representative shall have the authority to enforce compliance with the Contract Documents. Design-Builder shall promptly comply with all instructions from OC SAN's Representative which are made in accordance with the Contract Documents.
- E. Binding Authority. In all matters relating to acceptability of construction materials and equipment, execution and progress of Work, percentage of completion, the interpretation of Contract Documents, delays and claims by Design-Builder, the decision of OC SAN's Representative shall be final and binding unless Design-Builder timely follows the appropriate procedures to object to the same as set forth herein, or unless otherwise ordered by the Board.

4.2 Supervision by Design-Builder

- A. Generally. Design-Builder is required to give personal attention to the fulfillment of the Contract, and to keep the Work under control. Design-Builder shall supervise and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Design-Builder shall have a copy of the Contract Documents available at the Site at all times. Design-Builder shall furnish a competent and adequate staff as necessary for the proper administration, coordination, supervision, and superintendence of its portion of the Work on the Project; organize the procurement of all materials and equipment so that the materials and equipment will be available at the time they are needed for the Work; and keep an adequate force of skilled and fit workers on the job to complete all Work on the Project in accordance with all requirements of the Contract.
- B. Site Superintendent. Design-Builder shall provide a site superintendent with full authority to receive and execute such instructions, orders, or directions as OC SAN's Representative may issue in connection with the provisions of the Contract

Documents. The site superintendent shall be available on site at all times during progress of the Work. Before any Work is done at the Site, Design-Builder shall give written notice to OC SAN's Representative stating the name, home address, and telephone number of Design-Builder's site superintendent. OC SAN's Representative shall be informed in writing prior to any change of site superintendent. A statement naming more than one representative at a time to be in charge, depending upon which is present at the time, will not be acceptable. If a site superintendent is not present at a particular location of the Site, OC SAN's Representative may inform the foreman, or other person in charge, regarding an interpretation of the Contract Documents or of any disapproval or rejection of materials or Work performed. Information so given shall be as binding as if given to the site superintendent.

- C. Employment of Workers. Design-Builder shall comply with all requirements and restrictions of state and federal law respecting the employment of undocumented aliens, including, but not limited to, the Immigration Reform and Control Act of 1986, as may be amended from time to time, and shall require all Subcontractors and consultants to comply with the same. Each person executing the Contract on behalf of Design-Builder verifies that he or she is a duly authorized officer of Design-Builder and that any of the following shall be grounds for OC SAN to terminate the Contract for cause: (1) failure of Design-Builder or its Subcontractors or consultants to meet any of the requirements provided for in this Article; (2) any misrepresentation or material omission concerning compliance with such requirements; or (3) failure to immediately remove from the Work any person found not to be in compliance with such requirements.
- D. Labor Competency. Design-Builder shall, at all times, enforce strict discipline and good order among its employees. Design-Builder shall not employ on the Project any unfit person or anyone not skilled in the services assigned to him or her. If any Subcontractor, site superintendent, foreman, or person(s) employed by Design-Builder shall fail or refuse to carry out the directions of OC SAN's Representative, or shall appear to OC SAN's Representative to be incompetent or to act in a disorderly or improper manner, that person(s) shall be discharged immediately on demand of OC SAN and such person(s) shall not again be employed on the Project. Design-Builder shall bear all costs associated with such discharge of any Subcontractor, site superintendent, foreman, or person(s) employed by Design-Builder and such discharge shall not constitute a basis for any Request for Change or claim against OC SAN.
- E. Emergency. Design-Builder shall file with OC SAN's Representative the names, addresses, and telephone numbers of representatives who can be contacted at any time in case of emergency. These representatives must be fully authorized and equipped to correct unsafe or excessively inconvenient conditions on short notice.

4.3 Access to Work

- A. OC SAN, OC SAN's Representative, their consultants and other representatives and personnel, independent testing laboratories, and Governmental Bodies with jurisdictional interests will have access to the Site and Project at reasonable times for their observation, inspection, and testing. Design-Builder shall provide them proper

and safe conditions for such access and advise them of Design-Builder's safety procedures and programs.

ARTICLE 5 - SCOPE OF WORK

5.1 General Responsibilities

- A. Generally. Design-Builder agrees that it has single point responsibility for the design and construction of the Project, and agrees to utilize the generally accepted standards of design, engineering, and construction practices. Unless otherwise provided in the Contract Documents, Design-Builder shall provide and pay for all professional design/engineering services, services, labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work on the Project, whether temporary or permanent and whether or not incorporated or to be incorporated in Work on the Project. Design-Builder shall supervise, coordinate, and direct all Work on the Project using Design-Builder's best skill and attention and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Design-Builder shall be solely responsible for, and have control over, the entire design effort, construction means, methods, techniques, sequences, procedures, and the coordination of all portions of Work on the Project. Design-Builder shall be responsible to OC SAN for acts and omissions of Design-Builder, its agents, employees, and Subcontractors, and their respective agents and employees. Design-Builder has the duty to act in OC SAN's best interests at all times throughout the course and performance of the Contract. If Design-Builder performs any design and/or construction activity which it knows, or should know, involves an error, inconsistency, or omission without notifying and obtaining the written consent of OC SAN's Representative, Design-Builder shall be responsible for the resultant losses, including, without limitation, the costs of correcting Defective Work.
- B. Governmental Approvals. OC SAN will not be liable for Design-Builder's failure to obtain, maintain, and comply with all Governmental Approvals. All fines and fees assessed by Governmental Bodies as a result of said failures shall be Design-Builder's responsibility. In the event OC SAN is assessed with any fines or fees related to Design-Builder's failure to comply with the requirements set forth in this Article, the amount of fees or fines will be deducted from the Contract Price.
- C. Standard of Care. Design-Builder's performance shall be consistent with the standards set forth in the Contract and the General Conditions. Design-Builder represents that it is fully experienced and properly qualified to perform the class of Work provided for in the Contract and that it is properly licensed, equipped, organized, and financed to perform Work on the Project. Design-Builder warrants to OC SAN that all Work shall be performed in accordance with the professional standards and degree of care applicable to those design and construction professionals who specialize in designing and providing services for projects of the type, scope, quality, and complexity of the Project utilizing the progressive design-build contracting mode ("Standard of Care"). Design-Builder shall perform the Services using its best professional skill and judgment, acting with due care and in accordance with professional standards of care, the terms hereof, and applicable law, code, rule, or regulation. Design-Builder

warrants that the Work will be of the quality required by this Contract and free from defects (except for Design Work, which shall be performed in accordance with Section 5.2) and that all Work will conform with the requirements of the Contract Documents. Design-Builder shall be solely responsible for the means, methods, techniques, sequences, and procedures of design and construction of the Project. Design-Builder shall supervise, inspect, and direct the Services and Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Design-Builder shall perform, at its own cost and expense and without reimbursement from OC SAN, any services necessary to correct errors or omissions which are caused by Design-Builder's failure to comply with the standard of care provided for herein.

- D. Best Efforts. Design-Builder recognizes the relations of trust and confidence that are established by the Contract, and covenants with OC SAN to furnish Design-Builder's best skill and judgment, and to actively cooperate and assist in furthering the best interests of OC SAN in all matters pertaining to the Project. Design-Builder agrees to furnish efficient business administration and capable supervision, and to use every effort to keep upon the Work an adequate supply of workers and materials in order to secure its execution in the most expeditious and economical manner consistent with OC SAN's best interests. Design-Builder's employees assigned to the Project shall at all times be reasonably satisfactory to OC SAN.
- E. Independent Contractor. Design-Builder shall be responsible to OC SAN for acts and omissions of Design-Builder, its employees, Subcontractors, material and equipment suppliers, and their agents, employees, invitees, and other persons performing portions of Work on the Project under direct or indirect contract with Design-Builder or any of its Subcontractors. Design-Builder in the performance of the Contract shall be and act as an independent contractor. Design-Builder understands and agrees that it and all of its employees shall not be considered officers, employees, agents, partner, or joint venture of OC SAN, and are not entitled to benefits of any kind or nature normally provided employees of OC SAN or to which OC SAN's employees are normally entitled, including, but not limited to, State Unemployment Compensation or Worker's Compensation. Design-Builder shall assume full responsibility for payment of all federal, state, and local taxes or contributions, including unemployment insurance, social security, and income taxes with respect to Design-Builder's employees. In the performance of the Services, Design-Builder is an independent contractor or business entity, with the sole authority for controlling and directing the performance of the details of Design-Builder's Services, OC SAN being interested only in the results obtained.
- F. Permits and Licenses. All necessary permits and licenses for prosecution of the Work shall be secured and paid for by Design-Builder, including, but not limited to, permits, licenses, and fees required by a Governmental Body or necessary encroachment permits for Work within the public rights-of-way, unless otherwise expressly provided by the Contract Documents. Design-Builder shall arrange and pay for all off-site inspection of the Work related to permits and licenses, including certification, required by the Contract Documents or by Governmental Bodies, except for such off-site inspections delineated as OC SAN's responsibility pursuant to the Contract

Documents. Before completion of the Project, Design-Builder shall submit all licenses, permits, certificates of inspection, and required approvals to OC SAN.

5.2 Design Work

- A. Generally. Design-Builder is responsible for the design and construction of the Project and shall use the care and skill ordinarily used by members of the design profession practicing under similar conditions at the same time and locality of the Project in performing Design Work. Design-Builder shall be solely responsible for any and all design errors including, but without limitation, errors, inconsistencies, or omissions in the Construction Documents. Design-Builder shall take field measurements, verify field conditions, and carefully compare with the Contract Documents such field measurements, conditions, and other information known to Design-Builder before commencing Work on the Project. Errors, inconsistencies, or omissions discovered at any time shall be promptly reported in writing to OC SAN's Representative.
- B. Construction Documents
1. Generally. Design-Builder shall furnish design, architectural, and engineering services for the preparation of Construction Documents necessary to complete the Project in accordance with the requirements of the Contract Documents. The Designer of Record shall design the Project and prepare the Construction Documents. The Construction Documents shall provide information customarily necessary in documents for projects of similar size, complexity, and quality. The Construction Documents shall include all information required to complete the construction of the Project, other than such details customarily developed by others during construction. Design-Builder is required to deliver to OC SAN any and all Construction Documents and Work Product including, but not limited to, calculations, preliminary drawings, construction drawings, shop drawings, electronic media data, tenant improvement documents, sketches, illustrations, specifications, descriptions, models, mock ups, and other information developed, prepared, furnished, or delivered in the prosecution of the Design Work.
 2. Submittal and Review of Construction Documents. Design-Builder shall submit completed packages of the Construction Documents for review by OC SAN at the times indicated on the Phase 1 CPM Schedule and as defined in the Phase 1 Scope of Work. Unless otherwise expressly modified by the Phase 1 Scope of Work, meetings between Design-Builder and OC SAN to review the Construction Document packages shall be scheduled at least every two weeks, or as otherwise agreed to by the Parties, and held so as not to delay Work on the Project. Design-Builder will conduct these design meetings with OC SAN in accordance with the schedule approved by OC SAN. Design-Builder will be responsible for preparing and circulating for the parties' review, design meeting minutes from all such meetings. OC SAN's review of the Construction Documents shall be conducted in accordance with the approved Phase 1 CPM Schedule and with procedures set forth in the Contract Documents. Such review shall not relieve Design-Builder from its responsibilities under the Contract. Such review shall not be deemed an approval or waiver by OC SAN of any deviation from, or of Design-Builder's failure to comply with, any provision or requirement of the Contract Documents, unless such deviation or failure has been identified as such in writing in the document

submitted by Design-Builder and approved by OC SAN. The production and review of Construction Documents may be a continuing process with portions thereof completed at different times. The Phase 1 CPM Schedule shall indicate the times for OC SAN to review the completion of each such portion of the Construction Documents and a reasonable time for review of same.

- C. Field Engineering. Design-Builder shall retain and pay expenses of a civil engineer or land surveyor to establish on the Project site the required reference points and benchmarks, establish building lines and elevations, check for building framing, plumbness, and establish on building frame the required basic grid lines. The engineer or land surveyor shall be properly licensed in the State of California. Design-Builder shall locate and protect control points prior to starting Work on the Project site and preserve permanent reference points during construction, and shall require the engineer or surveyor to replace control points which become lost or destroyed.
- D. Information and Documents. OC SAN will make the reference documents related to the Project available to the Design-Builder, including, but not limited to, any preliminary surveys, geotechnical information, and other information that describes the Site. The reference documents are provided for information only and will not be included as part of the Contract Documents. Design-Builder shall perform its own independent site investigations in accordance with the requirements of the Contract Documents. Design-Builder's reliance on any reference documents shall not be a basis for increases to the Contract Price or Contract Time, nor shall it result in any claims against OC SAN.
- E. Geotechnical and Survey. OC SAN may provide to Design-Builder a geotechnical report that shall not be considered a part of the Contract Documents and shall be informational only and may not be relied upon by Design-Builder to form its basis of design. Design-Builder shall be responsible for obtaining its own geotechnical report which includes supporting data, findings, and recommendations; and also includes a legal description and a project survey, as necessary, which shall become a part of the Contract Documents. The Design Work shall be consistent with both the findings and recommendations of Design-Builder's geotechnical report and legal description and Project survey, or such other geotechnical recommendations obtained by Design-Builder at its sole cost and expense. Design-Builder shall verify the location and depth (elevation) of all existing utilities and services before performing any excavation work. Any additional tests, borings, etc. necessary to support the Construction Documents shall be the responsibility of Design-Builder.

5.3 Design-Builder's Performance of Work

- A. Means and Methods. Design-Builder is solely responsible for the means and methods utilized to perform Work. Design-Builder shall perform all Work in a skillful and workmanlike manner, and consistent with the standards generally recognized as being employed by professionals in the same discipline in the State of California. Design-Builder warrants that all employees and Subcontractors shall have sufficient skill and experience to perform the Work assigned to them. Design-Builder represents that it, its employees, and Subcontractors have all licenses, permits, qualifications, and approvals of whatever nature that are legally required to perform the Work, and that such licenses and approvals shall be maintained throughout the term of the Contract.

Design-Builder shall perform the Work in full compliance with all Applicable Laws and requirements of all Governmental Bodies having authority over the Project.

- B. Design-Builder's Responsibility for Work. Responsibility for, and security of, all Work and materials related to Design-Builder's Work is the responsibility of Design-Builder until Final Acceptance of Design-Builder's Work by OC SAN. OC SAN shall not be held responsible for the care or protection of any material or parts of the Work prior to Final Acceptance. Design-Builder shall take every necessary precaution against injury or damage to any part thereof by the action of the elements or from any cause whether arising from the execution or non-execution of the Work and all loss or damage shall be borne by Design-Builder. Design-Builder shall rebuild, repair, restore and make good at its own expense all injuries or damages to any portion of the Work before its completion and acceptance. In the event of damage proximately caused by an Act of God, OC SAN will pay for repair or restoration to damaged Work in excess of 5% of the Contract Price unless OC SAN has required Design-Builder to obtain insurance to indemnify OC SAN for any damage to the Project caused by an Act of God.
- C. Layout and Field Engineering. Design-Builder shall utilize a properly licensed surveyor to perform all layout surveys required for the control and completion of the Work and all necessary surveys to compute quantities of Work performed.

5.4 Construction Quality Assurance, Quality Control

- A. Generally. Design-Builder shall have full responsibility for quality assurance and quality control for the Construction Work, including compliance with the Contract Documents. Without limiting any other requirement hereunder, Design-Builder shall perform quality control inspection and testing services to ensure compliance with the Contract Documents. Sampling and testing of materials, laboratory inspection of materials and processes for quality control purposes shall be performed in compliance with the Contract Documents.
- B. Quality Control Plan. Design-Builder shall prepare and submit to OC SAN for review and approval a written Quality Control Plan that encompasses all requirements of the Contract Documents with regard to all quality control processes for the Construction Work. The Quality Control Plan shall identify Design-Builder's overall framework for implementation of its Quality Control programs across all aspects of the Work. Design-Builder shall submit the Quality Control Plan for OC SAN's acceptance. OC SAN's acceptance of the overall Quality Control Plan shall be a condition precedent to Design-Builder performing Construction Work. The Contract Documents provide more detail on what shall be included in the Quality Control Plan.
- C. Internal Quality Control Audits. Design-Builder shall establish and maintain documented procedures for planning and implementing internal quality audits to verify whether quality activities and related results comply with planned arrangements and to determine the effectiveness of the quality system. Audits shall be conducted on a planned and scheduled basis, consistent with the importance of the activities being performed. Design-Builder's management personnel responsible for the relevant area shall take timely corrective action on deficiencies found during the audit. OC SAN shall have the right to request and review the audit results. Follow-up audit activities shall verify and record the implementation and effectiveness of the corrective action taken.

OC SAN, at its sole discretion, may require Design-Builder to perform follow-up audits.

- D. Review and Update of QC Plan. Design-Builder shall continuously review the performance of the Quality Control Plan to ensure its continuing suitability in satisfying the requirements of the Contract Documents. Design-Builder's reviews shall, at a minimum, include review of the results of internal audits, OC SAN audit results, corrective actions taken, trends in Defective Work, and time to resolution. OC SAN may, in its sole discretion, participate in Design-Builder's reviews and may request data from the reviews. Design-Builder shall incorporate the findings and quality improvement recommendations of Design-Builder reviews into the Quality Control Plan.

ARTICLE 6 - LEGAL RELATIONS AND RESPONSIBILITIES

6.1 Laws to be Observed

- A. Applicable Laws. Design-Builder shall give all notices required by and shall comply with all Applicable Laws applicable to the performance of the Work. Except where otherwise expressly required by Applicable Laws, neither OC SAN nor OC SAN's Representative shall be responsible for monitoring Design-Builder's compliance with any Applicable Laws. If Design-Builder performs any Work knowing or having reason to know that it is contrary to Applicable Laws, Design-Builder shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work. Design-Builder shall defend and indemnify OC SAN, the Board of Directors, its consultants, and its subconsultants, each of their directors, officers, employees, or agents against any claim or liability arising from or based on the violation of any such law or regulation, whether by Design-Builder or any of Design-Builder's employees or agents, including its Subcontractors and Suppliers.
- B. Certified Electricians. Workers performing Work for Design-Builder installing, constructing, or maintaining any electrical system covered by the National Electric Code shall be certified as a General Electrician per California Labor Code section 3099.
- C. Travel and Subsistence Payments. Each worker needed to execute the Work must be paid travel and subsistence payments as defined in the applicable collective bargaining agreements filed in accordance with California Labor Code Section 1773.1.
- D. Nondiscrimination in Employment. Design-Builder must submit a signed statement pursuant to Government Code section 12940. The Contract obligates Design-Builder and Subcontractors not to discriminate in employment practices. Design-Builder must, if requested, submit a compliance report concerning its employment practices and policies in order to maintain its eligibility to receive the award of the Contract. Design-

Builder must be prepared to comply in all respects with the requirements regarding nondiscrimination, including, but not limited to, California Labor Code section 1735.

E. Public Records Act

1. Ownership and Disclosure. Except as otherwise provided herein, all records, documents, Construction Documents, Plans, Specifications, Work Product, and all other information relating to the conduct of OC SAN's business, including information submitted by Design-Builder ("Records"), shall become the exclusive property of OC SAN and shall be deemed public records. Said Records are subject to the provisions of the California Public Records Act. OC SAN's use and disclosure of its records are governed by this Act. OC SAN will use its best efforts to inform Design-Builder of any request for any financial records or documents marked "Trade Secret," "Confidential," or "Proprietary" provided by the Design-Builder to OC SAN. OC SAN will not advise as to the nature or content of documents entitled to protection from disclosure under the California Public Records Act.
2. Litigation Related to Disclosure. In the event of litigation concerning the disclosure of any Records, OC SAN's sole involvement will be as a stakeholder, retaining the Records until otherwise ordered by a court. Design-Builder, at its sole expense and risk, shall be fully responsible for any and all fees for prosecuting or defending any action concerning the Records and shall indemnify and hold OC SAN harmless from all costs and expenses including attorney's fees in connection with any such action.

6.2 Labor Requirements

A. Prevailing Rates of Wages

1. Prevailing Wage Laws. Design-Builder is aware of the requirements of Labor Code sections 1720 *et seq.* and 1770 *et seq.*, as well as California Code of Regulations, Title 8, Section 16000 *et seq.* ("Prevailing Wage Laws"), which require the payment of prevailing wage rates and the performance of other requirements on certain "public works" and "maintenance" projects. Since this Project involves an applicable "public works" or "maintenance" project, as defined by the Prevailing Wage Laws, and since the total compensation is \$1,000 or more, Design-Builder agrees to fully comply with such Prevailing Wage Laws. Design-Builder shall obtain a copy of the prevailing rates of per diem wages at the commencement of the Contract from the website of the Division of Labor Statistics and Research of the Department of Industrial Relations ("DIR") located at www.dir.ca.gov. In the alternative, Design-Builder may view a copy of the prevailing rate of per diem wages which is on file at OC SAN's office and shall be made available to interested parties upon request. Design-Builder shall make copies of the prevailing rates of per diem wages available to interested parties, upon request, for each craft, classification, or type of worker needed to perform work on the Project and shall post copies at Design-Builder's principal place of business and at the Project site. Design-Builder shall post, at appropriate conspicuous points on the Site, a schedule showing all determined general prevailing wage rates and all authorized

deductions, if any, from unpaid wages actually earned. Design-Builder shall defend, indemnify, and hold OC SAN, its officials, officers, employees, and authorized volunteers free and harmless from any claims, liabilities, costs, penalties, or interest arising out of any failure or alleged failure to comply with the Prevailing Wage Laws.

2. Penalties. Design-Builder shall forfeit as a penalty to OC SAN not more than Two Hundred Dollars (\$200.00), pursuant to Labor Code section 1775, for each calendar day, or portion thereof, for each worker paid less than the prevailing wage rate as determined by the director of the DIR for such work or craft in which such worker is employed for any public work done under the Contract by it or by any Subcontractor under it. The difference between such prevailing wage rate and the amount paid to each worker for each calendar day or portion thereof, for which each worker was paid less than the prevailing wage rate, shall be paid to each worker by Design-Builder.
 3. Davis-Bacon. If the Contract is subject to the Davis-Bacon Act, the federal minimum wage rates for the Project are predetermined by the United States Secretary of Labor. These rates are available directly from the Department of Labor at <http://www.wdol.gov> and included in the Contract Documents. If there is a difference between the minimum wage rates predetermined by the Secretary of Labor and the general prevailing wage rates determined by the director of the DIR for similar classifications of labor, Design-Builder and its Subcontractors shall pay not less than the higher wage rate.
- B. Public Works Contractor Registration. Pursuant to Labor Code sections 1725.5 and 1771.1, Design-Builder and its Subcontractors must be registered with the DIR prior to the execution of a contract to perform public works. By entering into the Contract, Design-Builder represents that it is aware of the registration requirement and is currently registered with the DIR. Design-Builder shall maintain a current registration for the duration of the Project. Design-Builder shall further include the requirements of Labor Code sections 1725.5 and 1771.1 in any subcontract and ensure that all Subcontractors are registered at the time the subcontract is entered into and maintain registration for the duration of the Project.
- C. Employment of Apprentices. Design-Builder and all Subcontractors shall comply with the requirements of Labor Code sections 1777.5 and 1777.6 in the employment of apprentices. Information relative to apprenticeship standards, wage schedules, and other requirements may be obtained from the Director of Industrial Relations, ex officio the Administrator of Apprenticeship, San Francisco, California, or from the Division of Apprenticeship Standards and its branch offices. Knowing violations of Labor Code section 1777.5 will result in forfeiture not to exceed one hundred dollars (\$100.00) for each calendar day of non-compliance pursuant to Labor Code section 1777.7.
- D. Hours of Work. As provided in Article 3 (commencing at section 1810), Chapter 1, Part 7, Division 2 of the Labor Code, Design-Builder stipulates that eight (8) hours of labor shall constitute a legal day's work. The time of service of any worker employed at any time by Design-Builder or by any Subcontractor under the Contract upon the Work or upon any part of the Project contemplated by the Contract is limited and restricted to

eight (8) hours during any one calendar day and 40 hours during any one calendar week, except as hereinafter provided. Notwithstanding the provisions herein above set forth, Services performed by employees of Design-Builder in excess of eight (8) hours per day, and 40 hours during any one week, shall be permitted upon this public work upon compensation for all hours worked in excess of eight (8) hours per day at not less than one and one-half times the basic rate of pay. Design-Builder and every Subcontractor shall keep an accurate record showing the name of and actual hours worked each calendar day and each calendar week by each worker employed in connection with the Services or any part of the Services contemplated by the Contract. The record shall be kept open at all reasonable hours to the inspection of OC SAN and to the Division of Labor Law Enforcement, Department of Industrial Relations of the State of California. Design-Builder shall pay to OC SAN a penalty of twenty-five dollars (\$25.00) for each worker employed in the execution of the Contract by Design-Builder or by any Subcontractor for each calendar day during which such worker is required or permitted to work more than eight (8) hours in any calendar day and 40 hours in any one calendar week in violation of the provisions of Article 3 (commencing at section 1810), Chapter 1, Part 7, Division 2 of the Labor Code.

E. Payroll Records; Labor Compliance

1. Maintaining Records. Pursuant to Labor Code section 1776, Design-Builder and all Subcontractors shall maintain weekly certified payroll records, showing the names, addresses, Social Security numbers, work classifications, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by them in connection with the Services under the Contract. Design-Builder shall certify under penalty of perjury that records maintained and submitted by Design-Builder are true and accurate. Design-Builder shall also require Subcontractor(s) to certify weekly payroll records under penalty of perjury.
2. Furnishing Records. In accordance with Labor Code section 1771.4, Design-Builder and each Subcontractor shall furnish the certified payroll records directly to the DIR on the specified interval and format prescribed by the DIR, which may include electronic submission. Design-Builder shall comply with all requirements and regulations from the DIR relating to labor compliance monitoring and enforcement.
3. Stop Orders. Any stop orders issued by the DIR against Design-Builder or any Subcontractor that affect Design-Builder's performance of Services, including any delay, shall be Design-Builder's sole responsibility. Any delay arising out of or resulting from such stop orders shall be considered Design-Builder caused delay subject to any applicable liquidated damages and shall not be compensable by OC SAN. Design-Builder shall defend, indemnify, and hold OC SAN, its officials, officers, employees, and agents free and harmless from any claim or liability arising out of stop orders issued by the DIR against Design-Builder or any Subcontractor.

4. Certifying Records. The payroll records described herein shall be certified and submitted by Design-Builder at a time designated by OC SAN. Design-Builder shall also provide the following:
 - a. A certified copy of the employee's payroll records shall be made available for inspection or furnished to such employee or his or her authorized representative on request.
 - b. A certified copy of all payroll records described herein shall be made available for inspection or furnished upon request of the DIR.
5. Form of Records. Unless submitted electronically, the certified payroll records shall be on forms provided by the Division of Labor Standards Enforcement ("DLSE") of the DIR or shall contain the same information as the forms provided by the DLSE.
6. Copies of Records. Any copy of records made available for inspection as copies and furnished upon request to the public or any public agency, OC SAN, the Division of Apprenticeship Standards, or the DLSE shall be marked or obliterated in such a manner as to prevent disclosure of an individual's name, address, and Social Security number. The name and address of Design-Builder awarded the Contract or performing Services on the Contract shall not be marked or obliterated.
7. Noncompliance. In the event of noncompliance with the requirements of this Article, Design-Builder shall have ten (10) Days in which to comply subsequent to receipt of written notice specifying in what respects Design-Builder must comply with this Article. Should noncompliance still be evident after such 10-Day period, Design-Builder shall pay a penalty of one hundred dollars (\$100.00) to OC SAN for each Day, or portion thereof, for each worker, until strict compliance is effectuated. Upon the request of the Division of Apprenticeship Standards or the DLSE, such penalties shall be withheld from progress payment then due.
- F. Nondiscrimination/Equal Employment Opportunity. Pursuant to Labor Code section 1735 and other Applicable Law, Design-Builder and its Subcontractors shall not discriminate against any employee or applicant for employment because of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, marital status, sex, age, sexual orientation, or any other classifications protected by law on this Project. Design-Builder will take affirmative action to ensure that employees are treated during employment or training without regard to their race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, marital status, sex, age, sexual orientation, or any other classifications protected by law.
- G. Debarment of Contractors and Subcontractors. Contractors and Subcontractors may not perform work on a public works project who are ineligible to perform work pursuant to Labor Code section 1777.1 or 1777.7. Any contract on a public works project entered into between a contractor and a debarred subcontractor is void as a matter of law. A debarred subcontractor may not receive any public money for performing work as a subcontractor on a public works contract. Any public money that is paid, or may have been paid, to a debarred Subcontractor by Design-Builder on the Project shall

be returned to OC SAN. Design-Builder shall be responsible for the payment of wages to workers of a debarred Subcontractor who has been allowed to work on the Project.

- H. Workers' Compensation. Pursuant to the requirements of California Labor Code section 1860, Design-Builder shall secure the payment of compensation to Design-Builder's employees in accordance with the provisions of Section 3700 of the California Labor Code. By executing the Contract, Design-Builder certifies the following:

"I am aware of the provisions of California Labor Code section 3700 which require every employer to be insured against liability for Workers' Compensation or to undertake self-insurance in accordance with the provisions of that Code, and I will comply with such provisions before commencing the performance of the Work of the Contract."

6.3 Safety and Accident Protection

- A. General Safety Requirements. Design-Builder shall be solely responsible for all safety precautions and programs in connection with the Project. Design-Builder shall comply with all Applicable Laws relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Design-Builder shall take all reasonable precautions for the health and safety of, and shall provide all reasonable protection to prevent damage, injury or loss to all employees on the Site and all other persons who may be affected thereby. Design-Builder shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Applicable Laws. Design-Builder shall notify owners of adjacent property and utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property. Design-Builder shall maintain emergency first aid treatment for its employees which complies with the Federal Occupational Safety and Health Act of 1970 (29 U.S.C. section 651 *et seq.*), and California Code of Regulations, Title 8, Industrial Relations Division 1, Department of Industrial Relations, Chapter 4. Design-Builder shall ensure the availability of emergency medical services for its employees in accordance with California Code of Regulations, Title 8, Section 1512.
- B. Safety Manager. Design-Builder assumes responsibility for implementing and monitoring all health and safety precautions and programs related to the performance of the Work. Design-Builder shall, prior to commencing Work, designate an individual with the qualifications and experience necessary to supervise the implementation and monitoring of all health and safety precautions and programs related to the Work. The health and safety manager shall be an individual stationed full time at the Site and who shall have no other responsibilities with respect to the Project other than supervising the implementation and monitoring of all health and safety precautions and programs related to the Work.
- C. Safety Inspections and Meetings. Design-Builder is solely responsible to inspect, survey, and assess the Site and identify the existence of all permit-required confined

spaces and non-permit confined spaces and comply with applicable OSHA regulations and standards. Design-Builder's Site assessment shall begin upon the initiation of Work and continue throughout the duration of the Project. The health and safety manager shall make routine daily inspections of the Site and shall hold weekly health and safety meetings with Design-Builder's personnel, Subcontractors, and others, as applicable.

- D. Safety Program. Design-Builder shall submit an illness and injury prevention program and a Site-specific safety program to OC SAN prior to beginning Work ("Safety Program"). The Safety Program shall include, but not be limited to, worker safety, electrical safety, lock-out/tag-out, arc flash safety personal protection equipment while working in vicinity of energized electrical equipment, hazard communication, fire protection plan, emergency access plan, health and safety inspections of mechanized equipment, machinery, hoists, cranes, scaffolding, excavations, shoring, and related items. Design-Builder shall maintain a confined space program that meets or exceeds Applicable Law. Design-Builder needs to make itself aware of OC SAN's safety policies and procedures, and shall meet or exceed all OC SAN standards in areas where OC SAN must enter to perform inspections.
- E. Safety Compliance Requirements. Design-Builder shall, and shall cause all Subcontractors to, comply with: (1) all Applicable Law relating to safety; (2) the Safety Plan; and (3) any OC SAN health and safety requirements, including, but not limited to, Contractor Safety Standards. Design-Builder shall immediately report (no later than within 12 hours after its occurrence), in writing, any health and safety-related injury, loss, damage, accident, or near miss arising from the Work to OC SAN's Representative and, to the extent mandated by Applicable Law, to any Governmental Body having jurisdiction over health and safety-related matters involving the Project. OC SAN shall have the right to suspend any or all Work if Design-Builder fails to comply with its obligations hereunder without any requirements of increasing a GMP or Contract Time.
- F. Emergencies. Design-Builder shall develop an emergency response plan in accordance with the Contract Documents. The emergency response plan shall establish the protocols for Design-Builder in dealing with emergencies impacting the performance of the Work and ensure there is sufficient response to any medical or fire emergency, such as injury to an employee or a wildfire at the Site. The emergency response plan shall be subject to the approval of OC SAN. In case of an emergency which threatens immediate loss or damage to property or health and safety of life, Design-Builder shall act immediately to prevent threatened loss, damage, injury, or death. Design-Builder shall notify OC SAN's Representative of the situation and all actions taken immediately thereafter. Prior to commencing Construction Work and at all times during the performance of the Work, Design-Builder shall provide OC SAN with 24-hour emergency phone numbers where its representatives can be contacted. When OC SAN has been notified of emergency situations requiring, in OC SAN's reasonable opinion, immediate attention and rectification, OC SAN will so notify Design-Builder. In the event Design-Builder fails to commence actions to prevent threatened loss, damage, injury or death immediately after notification from OC SAN, OC SAN may take all appropriate rectification actions and deduct the costs thereof from monies owed to Design-Builder.

- G. California Voluntary Protection Program Annual Reporting Requirements. If Design-Builder will potentially work 1,000 combined hours in a quarter, for the term of the Contract, Design-Builder shall provide an annual report detailing its safety and health information, including, but not limited to, its total number of employees, work hours, number of injuries and illnesses, and number of injury and illness cases involving days away from work, restricted work activity and/or job transfer. Design-Builder shall furnish this report to OC SAN no later than January 20th each calendar year. Failure to provide this data by the required due date may result in suspension of Design-Builder's services with OC SAN. Any delay arising out of or resulting from such suspension shall be Design-Builder's sole responsibility and considered Design-Builder caused delay, which shall not be compensable by OC SAN.

6.4 Patents

- A. Patent Fees and Royalties. Design-Builder shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. To the fullest extent permitted by Applicable Laws, Design-Builder shall indemnify, defend, and hold harmless OC SAN and OC SAN's Representative, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including, but not limited to, all fees and charges of engineers, architects, attorneys, and other professionals and all court, arbitration, and other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents or specified in the Contract Documents and identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights. Design-Builder's Performance Bond shall be deemed to apply expressly to this provision of these General Conditions.

6.5 Responsibility for Loss, Damage, or Injury

- A. Disclaim Responsibility by OC SAN. Neither OC SAN, nor its Board, officers, employees, or agents shall be held responsible in any manner for any loss or damage that may happen to the Work or any part thereof during the course of construction; for any loss or damage to any of the materials, equipment, supplies, or other things used or employed in performing the Work; for injury to or death of any person, either workers or the public; or for damage to property, from any cause that might have been prevented by Design-Builder, Design-Builder's workers, or anyone employed by the Design-Builder, including, but not limited to, Subcontractors.
- B. Design-Builder Responsibility. Design-Builder shall be responsible for all damages to persons or property that occur as a result of the Work. Design-Builder shall be responsible for the proper care and protection of all materials delivered and Work performed until completion and Final Acceptance by OC SAN. All Work shall be solely at Design-Builder's risk. Design-Builder shall be responsible for the preservation of public and private property including along and adjacent to the Site. Design-Builder

shall adequately protect adjacent property from settlement or loss of lateral support as necessary. Design-Builder shall take every precaution necessary to prevent damage to pipes, conduits, and other underground structures and shall protect carefully from disturbance or damage all land, survey monuments, and property markers. When or where any direct or indirect damage is done to OC SAN's, or adjacent, property by or on account of any act, omission, neglect, or misconduct in the performance of Work or in consequence of the non-performance thereof on the part of Design-Builder, Design-Builder shall restore, at Design-Builder's own expense, such property to a condition equal to that existing before such damage was done by repairing, rebuilding, or otherwise restoring same, or Design-Builder will make good such damage in a manner acceptable to OC SAN or other property owner, as applicable.

6.6 Preservation of Property

- A. Document Site. With the latest technology and prior to Construction Work, Design-Builder shall document the Site as required by the General Requirements.
- B. Care at Site. Design-Builder shall exercise reasonable care to avoid injury to existing improvements or facilities, utility facilities, any private or public property wherever located, trees, shrubbery, and other landscaping which are not to be removed. Design-Builder is required to familiarize itself with the worksite.
- C. Protection of Existing Facilities. All trees, shrubbery, landscaping which are not to be removed, and pole lines, fences, signs, survey markers and monuments, buildings, structures and improvements, conduits, pipelines (under or aboveground), sewers, waterlines, highway or street facilities, and any other improvements or facilities with respect to any private or public property wherever located shall be protected from injury or damage. Design-Builder shall provide and install suitable safeguards to protect such objects from injury or damage. If such objects are injured or damaged by reason of Design-Builder's operation, they shall be replaced or restored at Design-Builder's expense to a condition equivalent to their condition prior to such injury or damage or as required by the Contract Documents.
- D. Continuous Protection of Site. These precautionary measures will apply continuously and not be limited to normal working hours. Full compensation for the work involved in the protection and preservation of life, safety, and property as above specified shall be considered as included in the GMP, and no additional allowance will be made therefor.
- E. Notification of Damage. Design-Builder is obligated to respond to a notification of damages to any private or public property wherever located caused by Design-Builder's operations by beginning Work on emergency repairs/restorations immediately, and in no event later than 4 hours from said notification and on non-emergency repairs/restorations within 72 hours of said notification. Within these required timeframes, Design-Builder must begin efforts to resolve issues of responsibility for any damages or losses for any asserted claim. Design-Builder shall supervise any repairs/restorations or other Work that, at OC SAN direction, must be performed by parties not employed by Design-Builder. For any claims the Design-Builder asserts are not related to its operations, Design-Builder must provide OC SAN

with written notice to OC SAN stating its position and all documentation supporting the same, as well as written proof of referral to its insurance carrier and its determination, along with detailed rationale for any denial of coverage or denial of the claim. Said proof shall be submitted to OC SAN within 30 Days of the date of notification to Design-Builder of the damages or losses.

- F. Failure to Respond. In the event Design-Builder does not respond in the manner required herein and within the required timeframes, OC SAN may determine the validity of the claim and perform the Work itself or have another contractor or qualified entity perform the Work, and Design-Builder's next progress payment shall be reduced in amount commensurate with the cost of the work and/or resulting damages as a Contract deduction. If the cost of the work and/or resulting damages exceeds the amounts remaining due under the Contract, Design-Builder shall reimburse OC SAN for all remaining costs and/or damages immediately.
- G. Underground Facilities. The fact that any pipe or other underground facility is not shown on the Contract Documents, or is shown in a different location, shall not relieve the Design-Builder of responsibility under this section. Design-Builder shall be responsible for avoiding all injury or damage to any type of underground utility facility.
- H. Foundations. In addition to any requirements imposed by law, Design-Builder shall shore up, brace, underpin, and protect, as may be necessary, all foundations and other parts of all existing structures adjacent to and adjoining the worksite which are, or may be, in anyway affected by the excavations or other operations connected with the performance of the Work. Whenever any notice is required to be given by OC SAN or Design-Builder to any adjacent or adjoining landowner or other party before commencement of any Work, such notice shall be given by OC SAN, unless Design-Builder is directed otherwise by OC SAN.
- I. Emergency. In an emergency affecting the safety of life or property, including adjoining property, the Design-Builder, without special instructions or authorizations, is authorized to act with discretion to prevent such threatened loss or injury.

6.7 Warranty of Title

- A. Clear Title. No materials, supplies, or equipment for the Work under the Contract shall be purchased subject to any chattel mortgage or under a conditional sale contract or other agreement by which an interest therein or any part thereof is retained by the seller or Supplier. Design-Builder warrants clear and good title to all materials, supplies, and equipment installed and incorporated in the Work and agrees, upon completion of all Work, to deliver the Work together with all improvements and appurtenances constructed or placed thereon to OC SAN free from any claims, liens, encumbrances, or charges, and further agrees that neither Design-Builder, nor any person, firm, or corporation furnishing any material or labor for any Work covered by the Contract shall have any right to a Lien upon the premises or any improvement or appurtenance thereon, provided that this shall not preclude Design-Builder from installing metering devices or other equipment of utility companies or of municipalities, the title to which is commonly retained by the utility company or the municipality.

- B. Right of Suppliers. Nothing contained in this section shall defeat or impair the right of such persons furnishing materials or labor, under any bond given by Design-Builder for their protection, or any right under any law permitting such persons to look to unpaid funds due Design-Builder in possession of OC SAN. The provisions of this section shall be inserted in all subcontracts and material contracts, and notices of its provisions shall be given to all persons furnishing materials for the Work when no formal contract is entered into for such materials.
- C. Stop Payment Notices. Design-Builder is responsible for, and shall be obligated to pay, all stop payment notice claims asserted and proved to be an obligation of Design-Builder.

6.8 Property Rights in Material

- A. Rights. Nothing in these Contract Documents shall be construed as vesting in Design-Builder any right of property in the materials used after they have been attached or affixed to the Work or the soil, or after payment has been made for materials delivered to the worksite or stored subject to or under the control of OC SAN. All such materials shall become the property of, and title shall pass to, OC SAN upon being so attached or affixed or upon payment for materials delivered to the worksite or stored subject to or under the control of OC SAN. Design-Builder shall promptly execute, acknowledge, and deliver to OC SAN proper bills of sale or other written instruments of title in a form as required by OC SAN. The written instrument of title shall convey to OC SAN title to material, goods, and/or equipment for the Work free and clear of debts, claims, liens, mortgages, taxes, and/or encumbrances. If title has not been vested in OC SAN previously, title shall pass to OC SAN upon Final Completion.
- B. Segregating Materials. Design-Builder at its own expense shall conspicuously mark such material, goods, and equipment necessary for the Work as the property of OC SAN, and shall not permit such material, goods, and equipment necessary for the Work to become commingled with non-OC SAN owned materials, equipment, or goods, and shall take such other steps OC SAN may require or regard as necessary to vest title to such material, goods, and equipment necessary for the Work to OC SAN free and clear of debts, claims, liens, mortgages, taxes, and/or encumbrances.
- C. Transfer of Title. Transfer of title of Work to OC SAN shall not constitute or imply OC SAN's acceptance of the Work. Notwithstanding the transfer of title, Design-Builder shall continue to be liable and responsible to OC SAN for any damage to or loss of Work until the Work achieves Final Completion.
- D. Ownership of Site Materials. The title to water, soil, rock, gravel, sand, minerals, timber, and any other materials developed or obtained in the excavation or other operations of Design-Builder or any of its Subcontractors in the performance of the Contract, and the right to use said items in carrying out the Contract, or to dispose of same, is hereby expressly reserved by OC SAN. Neither Design-Builder nor any of its Subcontractors nor any of their representatives or employees shall have any right, title, or interest in said materials, nor shall they assert or make any claim thereto. Except as otherwise specified in the Contract Documents, Design-Builder will, as determined by OC SAN, be permitted to use in the Work without charge, any such materials which

meet the requirements of the Contract Documents, provided OC SAN shall have the right to use or consume these materials without payment to a third party.

6.9 Taxes

- A. Design-Builder shall pay all sales, consumer, use, and other similar taxes required to be paid in accordance with the Applicable Laws of the place of the Project which are applicable during the performance of the Work. In accordance with Revenue and Taxation Code section 107.6, the Contract Documents may create a possessory interest subject to personal property taxation for which Design-Builder will be responsible. Without limiting any of the foregoing, in the event OC SAN seeks to obtain any available exemption under Applicable Law from sales, consumer, use, and similar taxes for the Project, Design-Builder will cooperate with OC SAN in seeking such an exemption, and will utilize (and cause its Subcontractors to utilize) any such exemption to the extent available in performance of the Work.

6.10 Assignment of Antitrust Actions

- A. As set forth in Public Contract Code section 7103.5, in entering into a public works contract or subcontract to supply goods, services, or materials pursuant to a public works contract, Design-Builder, and Subcontractors, offers and agrees to assign to OC SAN all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C.A. Section 15), or under the Cartwright Act (Chapter 2 [commencing with section 16700] of Part 2 of Division 7 of the California Business and Professions Code), arising from purchases of goods, services, or materials pursuant to the public works contract or subcontract. This assignment shall be made and become effective at the time OC SAN tenders final payment to the Design-Builder, without further acknowledgment by the Parties.

6.11 Subcontracting

A. Subcontracting Generally

- 1. Licenses. Design-Builder shall employ only Subcontractors who are duly licensed and qualified to perform the Work consistent with the Contract Documents. All Subcontractors performing Construction Work shall possess a valid contractor license as required by Applicable Law for the classification required for the work to be performed by Subcontractors at the commencement of the Construction Work and throughout the duration of the Work.
- 2. Responsibility for Subcontractors. Design-Builder shall be as fully responsible to OC SAN for the acts and omissions of its Subcontractors and of persons either directly or indirectly employed by its Subcontractors, as Design-Builder is for acts and omissions of persons directly employed by Design-Builder. Nothing contained in these Contract Documents shall create any contractual relationship between any Subcontractor and OC SAN. OC SAN reserves the right to accept all Subcontractors. OC SAN's acceptance of any Subcontractor under the Contract shall not in any way relieve Design-Builder of its obligations in the Contract Documents. Subcontracts entered into by OC SAN for the performance of the

Work shall neither supersede nor abrogate any of the terms or provisions of the Contract.

3. Claims. Design-Builder shall be responsible for settling and resolving all claims with Subcontractors. Design-Builder shall provide to OC SAN, promptly following the receipt thereof, copies of any notice of default, breach, or non-compliance received under or in connection with any subcontract that may have a material and adverse effect on performance by Design-Builder of its obligations under the Contract Documents.
4. Payment. Design-Builder shall pay or cause to be paid to all Subcontractors all amounts due in accordance with their respective subcontracts and the requirements of this Article and Applicable Law. No Subcontractor shall have any right or claim against OC SAN for labor, services, materials, or equipment furnished for the Project. Design-Builder acknowledges that its indemnity obligations under the Contract shall extend to all claims for payment or damages by any Subcontractor who furnishes or claims to have furnished any labor, services, materials, or equipment in connection with the Project. Design-Builder shall, at OC SAN's request, furnish satisfactory evidence that all obligations of the nature designated above in this Article have been paid, discharged, or waived. If Design-Builder fails to do so OC SAN may, after having notified Design-Builder, withhold from Design-Builder's unpaid compensation a sum of money deemed reasonably sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged whereupon payment to the Design-Builder will be resumed in accordance with the terms of the Contract, but in no event shall the provisions of this sentence be construed to impose any obligations upon OC SAN to either Design-Builder, the Surety, or any third party.
5. Assignment. Each subcontract agreement shall include a provision that allows for an irrevocable assignment of the subcontract to OC SAN, solely at OC SAN's election and without cost or penalty. The provision shall indicate that OC SAN's acceptance of the assignment shall not affect any obligations of the Subcontractor's performance or payment bond surety. OC SAN may accept the assignment by delivering written notice to Design-Builder and Subcontractor.

B. Subcontracting Design Work

1. Identified in Proposal. Design-Builder shall perform the Design Work within its own organization or with a design professional identified in the Proposal.
2. OC SAN Approval. Design-Builder may request to have a design professional perform Design Work that is not expressly identified in the Proposal by requesting written approval from OC SAN. The request shall include, among other things, the scope of Design Work performed by the design professional and the design professional's qualifications. OC SAN may accept the request or may reject any proposed Subcontractor as unsuitable, unqualified, not responsible, having a conflict of interest, or that OC SAN otherwise objects to performing Design Work on the Project.

C. Substitution of Subcontractors

1. Subcontractors Performing Design Work. Design-Builder shall not substitute a Subcontractor performing Design Work except with OC SAN's prior express written authorization.
2. Subcontractors Performing Construction Work. Subcontractors performing Construction Work shall be afforded the protections of the Subletting and Subcontracting Fair Practices Act (Public Contract Code sections 4100 *et seq.*). Design-Builder shall not substitute Subcontractors that are awarded a contract pursuant to the above process, except in accordance with the Subletting and Subcontracting Fair Practices Act. Design-Builder may substitute a Subcontractor without following the Subletting and Subcontracting Fair Practices Act that Design-Builder procures through a noncompetitive procurement. Design-Builder shall not substitute in a Subcontractor for Self-Performed Construction Work except with OC SAN's prior express written authorization.
3. All Subcontractor Substitution. OC SAN will not grant an increase to a Phase 1 Fee, GMP or grant an extension of Contract Time in the event of a substitution of any Subcontractor.

D. Dismissal of Subcontractors

1. Subcontractor. OC SAN reserves the right to order Design-Builder to dismiss any Subcontractor and to terminate any subcontract if, in OC SAN's opinion, the Subcontractor fails to comply with the requirements of the Contract Documents insofar as the same may be applicable to the Subcontractor's Work. Nothing herein contained shall create any contractual relation between any Subcontractor and OC SAN or relieve Design-Builder of any liability or obligation hereunder. All persons engaged in the Work will be considered as employees of Design-Builder and Design-Builder shall be responsible for their Work.
2. Staff Member of Subcontractor. If, at any time during the Project, OC SAN reasonably determines that the performance of any member of Subcontractor's staff performing Work is unsatisfactory, OC SAN may require Design-Builder to remove such staff member immediately and replace the staff member at no cost or penalty to OC SAN.
3. No Increase in Price, Time. OC SAN will not grant an increase to a GMP or grant an extension of the Contract Time in the event of a dismissal of any Subcontractor.

E. Flow Down Requirements

1. Each Subcontract and Supplier agreement shall preserve and protect the rights of OC SAN, its Board, officers, agents, and employees under the Contract Documents with respect to the Work to be performed by the Subcontractor or the deliverables to be provided by Supplier, as applicable. Where appropriate, Design-Builder shall require each Subcontractor and Supplier to enter into similar agreements with sub-Subcontractors or sub-Suppliers, as applicable. Design-

Builder shall make available to each proposed Subcontractor or Supplier, prior to the execution of the subcontract or Supplier agreement, copies of the Contract Documents. In addition, upon the request of OC SAN, Design-Builder shall make available to OC SAN any and all subcontract and Supplier agreements pertaining to the Project and the Work thereunder. By appropriate agreement, written where legally required for validity, Design-Builder shall require:

- a. Each Subcontractor and Supplier shall be bound to Design-Builder by the terms of the Contract Documents;
 - b. Each Subcontractor and Supplier shall assume toward Design-Builder all obligations and requirements and responsibilities, including the responsibility for safety of the Subcontractor's Work, which Design-Builder, by the Contract Documents, assumes toward OC SAN;
 - c. Each Subcontractor and Supplier shall require all subcontracted Work to be performed in accordance with the Contract Documents and that, with respect to the Work the Subcontractor or Supplier performs, the Subcontractor or Supplier assumes toward Design-Builder all the obligations and responsibilities which Design-Builder assumes toward OC SAN.
 - d. Each of its Subcontractors or Suppliers shall include in their contracts with lower-Tier Subcontractors or Suppliers these same requirements, and to require each Subcontractor or Supplier to make copies of the Contract Documents available to the Sub-Subcontractors or sub-Suppliers.
2. This section does not and shall not operate to relieve Design-Builder of any duty or liability under the Contract Documents, nor does it create any duty or liability on the part of OC SAN. Design-Builder shall have sole responsibility for promptly settling any disputes between its Subcontractors and between the Subcontractors and any of their lower-Tier Subcontractors.

6.12 Software Licensing Agreement and Provisions for Use

- A. To the extent that software is included in the Contract Documents, the following shall apply:
1. Deliveries. Design-Builder shall deliver to OC SAN the software, source code materials, and documentations in the format specified in the Contract Documents.
 2. Ownership. Design-Builder shall retain ownership of the software, source code materials, and documentation with the right to exploit the same, subject to OC SAN's rights as herein provided. OC SAN shall place such copyright notices affirming the Design-Builder's ownership rights as the Design-Builder may reasonably require on all materials licensed hereunder which are reproduced by OC SAN.
 3. License Rights. Design-Builder hereby grants to OC SAN a royalty-free, paid-up, non-exclusive license, in perpetuity, to use duplicate, and disclose the software,

source code materials, and documentation, and to make modifications of and enhancements to the software, and permit others (who sign standard nondisclosure agreements) to do the same, but only for governmental purposes and not for any commercial purposes.

4. Confidentiality. OC SAN shall hold the software, source code materials, and documentation in confidence; shall use and disclose them only as expressly authorized herein or as required by law and only to its employees, agents or sublicensees to whom disclosure is necessary or appropriate for the performance and exercise of its rights hereunder; and shall take reasonable steps to ensure that unauthorized persons will have no access to them.
5. Warranty. Design-Builder warrants that the software will perform according to the specifications set forth in the Contract; that it is owner of the software, source code materials, and documentation; that it has the right to convey and grant the license herein granted to OC SAN; and that OC SAN's use thereof as herein contemplated will not infringe any third party's proprietary rights. The foregoing warranties shall not apply to the extent the software is modified by OC SAN.
6. Modifications and Enhancements. Upon OC SAN's request, the Design-Builder shall generate modifications of the enhancements to the software not required by the Contract and/or beyond the scope of what was specified and/or provided under the Contract Documents, at the Design-Builder's rates charged for comparable services to its most favored customers.

6.13 Assignment

- A. The performance of all or any portion of the Contract may not be assigned except upon the prior written consent of OC SAN, and as specifically provided herein. Consent will not be given to any proposed assignment that would relieve the original Design-Builder or the Sureties of responsibilities under the Contract.
- B. Upon obtaining prior written consent of OC SAN, Design-Builder may assign monies due or to become due under the Contract, to the extent permitted by law, but any assignment of monies shall be subject to all proper setoffs in favor of OC SAN and to all deductions provided for in the Contract. In particular, all monies withheld, whether assigned or not, shall be subject to being used by OC SAN for the completion of the Work in the event that Design-Builder should default.
- C. No assignment of the Contract will be approved unless it contains a provision that the funds to be paid to the assignee under the assignment are subject to a prior lien for services rendered or materials supplied for performance of the Work called for under the Contract in favor of all persons, firms, or corporations rendering such services or supplying such materials and that OC SAN may withhold funds due until all Work required by the Contract Documents is completed to OC SAN's satisfaction.

6.14 Security

- A. Security Generally. Design-Builder shall be responsible for the security and protection of the Project and the Site, including any security requirements set forth in the Contract

Documents. Design-Builder shall guard against all damage or injury to such properties caused by trespass, negligence, vandalism or malicious mischief of third parties, and shall operate, maintain, repair, and replace all surveillance and other security equipment and assets constituting fixtures of the Project in accordance with the Contract Documents. Design-Builder shall comply with, and cause all Subcontractors to comply with, all terms and conditions related to security.

- B. Security Plan. Design-Builder shall provide, for OC SAN's review and comment, a Security Plan, prepared in accordance with the Contract Documents. Design-Builder shall not perform any Construction Work until OC SAN has reviewed and commented on the Security Plan. Design-Builder shall provide a final Security Plan, having addressed any comments provided by OC SAN, as a pre-condition to Construction Work.

ARTICLE 7 - COST OF CONSTRUCTION WORK

7.1 Early Construction and Early Purchases

A. Generally

1. OC SAN may direct, or the Parties may agree, that Design-Builder will procure an Early Purchase Item or perform an Early Construction Package. For purposes of interpretation, and unless otherwise stated, the terms of these General Conditions that apply to procurement of equipment and material or Construction Work shall apply to an Early Purchase Item or an Early Construction Package. This includes, but is not limited to, applicable procurement requirements and compensation for an Early Purchase Item or an Early Construction Package.

Approval by OC SAN of an Early Purchase Item or an Early Construction Package shall not prejudice any right of OC SAN with respect to Phase 2 or the remainder of the Construction Work, including OC SAN's right to terminate the Contract if the Parties cannot agree to a Phase 2 GMP Amendment and move to Phase 2 Work. For the avoidance of doubt, in no event shall an Early Purchase Item or Early Construction Package be construed as a Phase 2 GMP Amendment or as a Notice to Proceed with Phase 2 Work.

2. Design-Builder expressly agrees and acknowledges that this process for an Early Purchase Item or an Early Construction Package is a contractual mitigation measure to avoid increased costs and to avoid delay(s) to the construction of the Project. OC SAN's consent to this process hereunder shall in no way entitle Design-Builder to an increase in the Contract Price or an extension of the Contract Time after the issuance of the Notice to Proceed for Phase 2, unless otherwise permitted, and consistent with the requirements of, the Contract Documents.

B. Early Purchase Item

1. Design-Builder shall procure Early Purchase Items on either a best value or low-bid basis, as prescribed by OC SAN. In the event that a best value procurement is

utilized, Design-Builder will obtain approval of the evaluation criteria from OC SAN and OC SAN has the right to review all proposals submitted. In the event that a low-bid procurement is utilized, OC SAN has the right to review and approve all bids submitted.

2. Each Early Purchase Item Amendment, if any, shall set forth all pricing, schedule, and other relevant commercial terms specific to the corresponding Early Purchase Item. Design-Builder shall obtain express written authorization from OC SAN prior to procurement of any equipment as part of an Early Purchase Item. Design-Builder may procure equipment at its own risk without obtaining OC SAN's prior approval.
3. Upon delivery of an Early Purchase Item to Design-Builder, whether at the Site or off-site, Design-Builder shall provide OC SAN with verifiable documentation of the receipt of any Early Purchase Item(s) including bill of lading and photographs specifically identifying:
 - a. The Early Purchase Item;
 - b. The serial number of each Early Purchase Item; and/or
 - c. Other indicia authenticating the Early Purchase Item.
4. Design-Builder's obligations to store an Early Purchase Item shall comply with all requirements for storage of equipment and materials in the Contract Documents and shall ensure that all policies of insurance protecting property shall cover the Early Purchase Item.

C. Early Construction Package

1. If OC SAN chooses to authorize the preparation of a proposal for an Early Construction Package, the Parties will agree upon the specific process for doing so, with the understanding that the process is intended generally to follow the submittal and negotiation process set forth for a Phase 2 GMP Proposal. Design-Builder shall comply with all applicable procurement requirements required by the Contract Documents.
2. An Early Construction Package shall set forth the proposed scope of work under the Early Construction Package, the proposed timing, a procurement plan for the work, and any other information necessary to approve and proceed with the Early Construction Package.
3. Each Early Construction Amendment, if any, shall set forth all pricing, schedule, and other relevant commercial terms specific to the corresponding Early Construction Package. If utilized, the form of the Early Construction Amendment shall be generally consistent with the form of a Phase 2 GMP Amendment.
4. Design-Builder shall not commence an Early Construction Package until OC SAN issues a Notice to Proceed for the Early Construction Package. OC SAN shall have

no liability to Design-Builder with respect to an Early Construction Package unless and until OC SAN issues a Notice to Proceed for the Early Construction Package, and then only to the extent of the Early Construction Amendment for which OC SAN issued a Notice to Proceed.

5. All services performed pursuant to an Early Construction Amendment shall constitute Construction Work and shall be performed in accordance with the Contract Documents for Construction Work.

7.2 Guaranteed Maximum Price

- A. Design-Builder guarantees that the final cost to construct all or portion of the Work required by the applicable GMP shall not exceed the GMP for all or portion of the Work, subject to any additions or deductions as provided in the Contract Documents. Except as otherwise provided in the Contract Documents, Design-Builder shall assume the risk of all costs in excess of the GMP in the performance of Work and to provide a fully completed and successfully operational Project, complete in every detail according to the provisions of the Contract Documents and shall not be entitled to additional payments because of such excess costs. Should Design-Builder believe that it is entitled to additional compensation, whether money or time, it must request such compensation through a Request for Change. If the final accounting of the costs for Work exceeds the GMP for the Work, including all adjustments to the GMP in accordance with the Contract Documents, Design-Builder shall be solely responsible for all costs exceeding such amount.
- B. A GMP includes and assumes that from time to time, Design-Builder will encounter delays and difficult site conditions arising from limited access to work areas, other interference, or conditions at the Project site. Design-Builder assumes full responsibility for its examination, investigation and understanding of the difficulties which may be encountered, and has included in a GMP the cost of any Work associated with such difficulties.

7.3 Composition of Guaranteed Maximum Price

- A. GMP Elements. The GMP will be based on an Open Book Basis and comprised of the following elements:
 1. Completion of Design Work for the Project, including any design support services during Phase 2.
 2. Cost of Work, including:
 - a. Direct Cost;
 - b. General Conditions Cost; and
 - c. Subcontractor Construction Cost.
 3. Bond costs without markup.

4. Insurance costs without markup.
 5. Design-Builder's Fee applied to Cost of Work.
 6. Design-Builder Contingency, if any.
 7. Allowances, if any.
- B. Design Work Services. OC SAN and Design-Builder will negotiate an amount for Design-Builder to complete Design Work for the Project and design support services in Phase 2. The amount will be based on pricing in Design-Builder's RFP Pricing and how the Phase 1 Fee is established.
- C. Cost of Work Components
1. Direct Cost
 - a. Direct Cost includes the actual and verifiable Direct Cost necessarily incurred and paid by Design-Builder in the proper performance of Construction Work. Direct Cost includes, but is not limited to, the following:
 - (i) Field Labor Cost. The cost of field labor will be the actual cost for wages prevailing locally for each craft or type of worker at the time the Work is done, plus employer payments of payroll taxes and insurance, health and welfare, pension, vacation, apprenticeship funds, and other direct costs resulting from federal, state, or local laws, as well as assessment or benefits required by lawful collective bargaining agreements. OC SAN shall not be responsible for any labor rates in excess of the prevailing wage rate unless specifically authorized by OC SAN's Representative for individuals with special qualifications. Wages, burdens, and fringes will be paid at actual cost as verified as part of the labor compliance reporting process and are fully auditable. They shall include the following: actual wages paid to employees; labor burden, including charges for social security taxes, Medicare taxes, federal unemployment taxes, state unemployment taxes, and other taxes pertaining to labor; and employer payments to or on behalf of the workers for health, welfare, pension, vacation, apprenticeship funds, and similar purposes, as well as assessments or benefits required by lawful collective bargaining agreements. Cost for supervision above the level of working foremen (such as general foremen, superintendent, project manager, etc.) is considered to be included in General Conditions Cost. Premium and overtime rates shall not be paid by OC SAN unless authorized or directed by OC SAN in writing.
 - (ii) Materials, Equipment Cost. The cost of materials and equipment incorporated into the Project shall be actual costs, including purchase, transportation, inspection, testing, storage, and handling costs. Cost of materials described in the preceding sentence in excess of those actually installed but required to provide reasonable allowance for waste and for spoilage, require written approval by OC SAN. Unused excess materials, if

any, shall be turned over to OC SAN at the completion of the Project or, at OC SAN's option, shall be sold by Design-Builder; amounts realized, if any, from such sales shall be credited to OC SAN as a deduction from the Direct Cost. OC SAN reserves the right to furnish materials and equipment for the Project.

- (iii) Construction Equipment Cost. Regardless of ownership, rates for temporary facilities, machinery, equipment and hand tools not customarily owned by construction workers, which are provided by Design-Builder at the Site, whether rented from Design-Builder or others, and costs of transportation, installation, minor repairs and replacements, dismantling and removal thereof, shall not exceed listed rates prevailing locally at equipment rental agencies, or distributors, at the time the Work is performed. Design-Builder shall furnish cost data supporting the establishment of the equipment rate. In the absence of an identified direct cost for the equipment, Design-Builder will be paid for the use of equipment at the rental rates identified for such equipment in the edition of the State of California Department of Transportation (Caltrans) publication "Labor Surcharge & Equipment Rental Rates" as supplemented by the Caltrans "Miscellaneous Equipment Rental Rates" publication in effect on the date the Work is performed. If that equipment is not listed in either Caltrans publication, the U.S. Army Corps of Engineers publication "Construction Equipment Ownership and Operating Expense Schedule" in effect on the date the Work is performed shall be used to determine the rental rate. The equipment rates paid, as above provided, shall include the cost of fuel, oil, lubrication supplies, small tools, necessary attachments, repairs and maintenance of all kinds, depreciation, storage, insurance, and all incidentals. Rates and quantities of equipment rented will be subject to OC SAN's prior approval. The time to be paid for equipment shall be the time the equipment is in productive operation on the Work being performed. Charges for time will not be allowed while equipment is inoperative due to breakdowns. All equipment shall, in the opinion of OC SAN, be in good working condition and suitable for the purpose for which the equipment is to be used. When hourly rates are listed, any part of an hour less than 30 minutes of operation shall be considered to be 1/2-hour of operation, and any part of an hour greater than 30 minutes will be considered one hour of operation. When daily rates are listed, any part of a day less than 4 hours operation shall be considered to be 1/2-day of operation. Individual pieces of equipment having a replacement value of five thousand dollars (\$5,000.00) or less shall be considered to be small tools or small equipment and no payment will be made for them. Small tools are part of General Conditions Cost.
- (iv) Sales Tax. Design-Builder's charge for sales tax will be its actual, verified direct sales tax costs only.
- (v) Travel; Lodging Cost. The reasonable cost of travel, accommodations, and meals for Design-Builder's personnel directly involved in the performance of the Work, negotiated in a GMP.

- b. Costs Not Considered Direct Cost. Direct Cost do not include the following: General Conditions Cost; Subcontractor Construction Cost; Design Work; Design-Builder's personnel primarily stationed at Design-Builder's principal or home offices; material or equipment provided by OC SAN; cost of Design-Builder's capital used in the performance of the Construction Work; cost that would cause the GMP to be exceeded; discounts and rebates and the salvage value of tools and equipment consumed in the Work charged by Design-Builder; cost incurred in performing call-back, repair, and warranty work; cost due to the negligence, error, or omission of Design-Builder or to the failure of Design-Builder to fulfill a specific responsibility to OC SAN set forth in the Contract Documents; cost incurred as a result of a delay which does not constitute compensable delay under the Contract Documents; cost incurred in the performance of Phase 1 Services; legal fees, and costs related to or arising from disputes between the Parties, including, but not limited to, mediation and litigation fees; any cost not specifically and expressly described as a reimbursable cost; and cost Design-Builder is required to bear as a result of Design-Builder's failure to perform in accordance with the Contract Documents.
2. General Conditions Cost. General Conditions Cost will be negotiated between OC SAN and Design-Builder and established in a GMP Amendment. Design-Builder will be paid for its General Conditions Cost based on a fixed duration price (i.e., x amount per week or month) and not on the basis of actual verified costs, unless otherwise agreed to by the Parties. General Conditions Cost include Design-Builder's costs to manage and support the Construction Work for a GMP, including, but not limited to, the following:
- a. Design-Builder's staff at the Site, including the following:
- (i) Hourly costs of wages or salaries, including fringe benefits, of all Design-Builder's supervisory and administrative personnel engaged in the performance of Construction Work but only for that portion of their time required for Work covered by the GMP, including but not limited to the project manager, construction manager, superintendent(s), and those responsible for managing and implementing Design-Builder's general conditions, including, but not limited to, scheduling, cost control, billing, surveying, Security Plan, and Safety Plan.
 - (ii) Hourly costs of wages or salaries, including fringe benefits, of the Design-Builder's supervisory and administrative personnel engaged off of the Site at suppliers, at workshops, or on the road, to assist in the coordination, production, or transportation of material or equipment for the Construction Work.
- b. Field office costs for Design-Builder staff, including the following:
- (i) Design-Builder field office mobilization and demobilization
 - (ii) Office trailer rental

- (iii) Office furniture and equipment
 - (iv) Office janitorial
 - (v) Office supplies
 - (vi) Office computers, software, and maintenance
 - (vii) Office telephones, telephone and internet services, and all job site communication for the Project
 - (viii) Document reproduction services (off-site or custom)
 - (ix) Copy machines, fax machines, printers, scanners, and paper shredders
 - (x) Postage, courier, and express delivery
 - (xi) Accounting and data processing costs
 - (xii) Jobsite radios/cellular phones
 - (xiii) Scheduling expenses
 - (xiv) Job meeting expenses
 - (xv) Employee identification system
 - (xvi) As-Built Drawings
 - (xvii) Project preconstruction and progress photos
 - (xviii) Job Site security
- c. Temporary amenities and utilities (include hookup, metering, and consumption costs) including the following:
- (i) Drinking water
 - (ii) Temporary toilets
 - (iii) Temporary water distribution and meters
 - (iv) Temporary fire protection
 - (v) Temporary power
 - (vi) Temporary and emergency lighting
 - (vii) Temporary construction facilities and services

(viii) Temporary heat and ventilation

3. Subcontractor Construction Cost. Subcontractor Construction Cost includes payments made by Design-Builder to Subcontractors for the proper performance of Construction Work. Subcontractor Construction Cost includes, but is not limited to, the following:
 - a. Payments made by Design-Builder to Subcontractors for any and all cost to perform Subcontracted Construction Work as part of the Work established in either a quote, proposal, or bid to Design-Builder, including, but not limited to, the Subcontractor's direct costs, indirect costs, field and office overhead, performance bonds, payment bonds, insurance, and profit.
- D. Bond Costs. Design-Builder's charge for Performance Bond and Payment Bond costs shall be its actual, verified costs, without any markup, and identified in a GMP Amendment.
- E. Insurance Costs. Design-Builder's charge for insurance shall be its actual, verified costs, without any markup, and identified in a GMP Amendment.
- F. Design-Builder's Fee. Design-Builder's Fee shall compensate Design-Builder for its home office overhead, profit, and other costs and expenses not specifically included in the Cost of Work. Design-Builder's Fee percentage is identified in the Special Conditions and shall only be applied to Design-Builder's Cost of Work.
- G. Design-Builder Contingency. Design-Builder may propose within the GMP a Design-Builder Contingency, in an amount to be approved by OC SAN and established in a GMP Amendment. If agreed upon by OC SAN and included within GMP Amendment, Design-Builder Contingency will be available for Design-Builder to cover any Construction Work that could not have been anticipated by Design-Builder on the effective date of the GMP Amendment, such as resequencing the Construction Work for the benefit of the Project. If a GMP includes Design-Builder Contingency, the GMP Amendment shall describe when Design-Builder Contingency may be used by Design-Builder. Use of Design-Builder Contingency requires OC SAN's approval, not to be unreasonably withheld. Design-Builder Contingency is not a separate fund, but is tracked as a separate line item within the GMP and will be used as a cost management tool. When used, Design-Builder Contingency funds will be subtracted from the Design-Builder Contingency line item and applied to one or more line items in the GMP.
- H. Allowances. In developing the GMP Proposal, Design-Builder may propose including appropriate Allowances for defined items of Work that cannot be appropriately quantified and estimated at the time the GMP Amendment is established. Each such item of Work will be covered in a separate line item and have a clear description in the GMP Amendment of what is covered by the Allowance. Allowance items will be converted to, and included as a line item within that GMP once conditions exist that allow them to be properly quantified and priced, only with specific written approval of OC SAN. Allowance items that cannot reasonably be quantified and estimated before the Allowance Work begins will be reconciled based on the actual cost of the

Allowance Work. If the actual cost of the Work covered by an Allowance will be greater than the amount of the Allowance, Design-Builder will notify OC SAN and if OC SAN authorizes the Allowance Work in a Change Order, the GMP will be increased by such difference with an additional agreed upon amount.

7.4 Convert GMP to Lump Sum Price

- A. At OC SAN's discretion, a GMP may be converted to a Lump Sum Price with a negotiated discount. To the extent that a GMP is converted to a Lump Sum Price, all references to GMP within the Contract Documents shall apply equally to the converted Lump Sum Price except as clearly and expressly indicated in any document effectuating the conversion.

7.5 Self-Performed Construction Work

A. Self-Performed Construction Work Generally

- 1. Amount of Construction Work Performed. The Special Conditions provide for the minimum and maximum amount of Construction Work required to be performed by Design-Builder on the Project.
- 2. Identification of Self-Performed Construction Work. Design-Builder is entitled to perform Self-Performed Construction Work, competitively bid against an independent cost estimate, in accordance with applicable law and written OC SAN approval. To perform Construction Work, Design-Builder must submit a written request to OC SAN seeking approval, which is at OC SAN's sole discretion, prior to submitting a GMP Proposal. The written request shall explain why the Work cannot be subcontracted and how performing the Work by Design-Builder will be most advantageous to OC SAN. OC SAN agrees to consider approving such request if Design-Builder demonstrates to OC SAN's satisfaction that providing this Construction Work is in the best interest of the Project. If OC SAN approves the requests, Design-Builder still must follow the competitive procedures for Self-Performed Construction Work.

B. Competitive Procedures for Self-Performed Construction Work

- 1. Design-Builder must submit to OC SAN's Representative as part of the GMP Proposal and on an Open Book Basis, pricing for Self-Performed Construction Work that includes a detailed description of the scope of the Work. The bid format shall be consistent with cost modeling provided during Phase 1 Services.
- 2. Prior to providing OC SAN with pricing for Self-Performed Construction Work, Design-Builder shall provide OC SAN notice of when the pricing will be submitted and allow OC SAN a sufficient amount of time to engage an independent cost estimator to perform an independent cost estimate.
- 3. Prior to receipt of Design-Builder's pricing for Self-Performed Construction Work, OC SAN will perform an independent cost estimate using, among other things, current local construction market costs.

4. Design-Builder shall submit revised pricing for Self-Performed Construction Work and an updated GMP Proposal as may be necessary to continue negotiations for a GMP Amendment. The process shall continue until either:
 - a. OC SAN agrees to the pricing for the Self-Performed Construction Work;
 - b. If OC SAN's independent cost estimate cannot be reconciled with Design-Builder's pricing, Design-Builder agrees to perform the Self-Performed Construction Work at OC SAN's final independent cost estimate;
 - c. At OC SAN's sole discretion, allow Design-Builder to subcontract the Self-Performed Construction Work pursuant to the subcontracting procedures for Subcontractors in these General Conditions. Design-Builder shall not be allowed to compete against bidders for the Construction Work unless otherwise agreed to by OC SAN, in its sole discretion. If OC SAN allows Design-Builder to subcontract the Self-Performed Construction Work, the minimum and maximum amount of Construction Work required to be performed by Design-Builder on the Project will not change.
 - d. At OC SAN's sole discretion, follow the procedures in these General Conditions for when the Parties are unable to execute a GMP Amendment.
5. Design-Builder shall not be entitled to an increase of the GMP or any extension of Contract Time related to the foregoing process.

C. Costs to Price and Bid Self-Performed Construction Work

1. Any and all costs expended by Design-Builder to price Self-Performed Construction Work shall be part of the Phase 1 Fee.
2. If OC SAN allows Design-Builder to subcontract the Self-Performed Construction Work after failing to agree to pricing with Design-Builder for Self-Performed Construction Work, Design-Builder shall be responsible for any and all costs related to subcontracting the Self-Performed Construction Work. This includes, but is not limited to, costs to prepare Work Packages and following the competitive subcontractor procurement procedures.

7.6 Key Subcontractors

- A. If applicable, pricing for Key Subcontractors shall be determined by following the competitive procedures for Self-Performed Construction Work.

7.7 Subcontracted Construction Work

- A. Subcontracted Construction Work. Design-Builder shall develop and prepare separate and specific Work Packages for each category of Subcontracted Construction Work that clearly delineates the scope of subcontracted Work. Design-Builder shall be responsible for the assembly, reproduction, and distribution of all documents defining the scope of work for each category of Subcontracted Construction Work.

B. Competitive Subcontractor Procurement

1. Compliance with Law. Design-Builder shall procure Subcontractors through a competitive process that complies with Applicable Law, including, but not limited to, legislation that authorizes the Contract. Subcontractors shall be selected in accordance with protections provided by State law, including, but not limited to, the Subletting and Subcontracting Fair Practices Act (Public Contract Code sections 4100 *et seq.*). Exceptions to the competitive process shall only be authorized as set forth in the Contract Documents.
2. Prequalification. Design-Builder may, at its option, advertise for statements of qualifications in order to prequalify or shortlist interested subcontractors prior to soliciting bids or proposals.
3. Public Notice. Design-Builder shall provide notice of bidding for Subcontracted Construction Work in accordance with the publication requirements applicable to OC SAN's competitive bidding process including a fixed date and time on which qualification statements, bids, or proposals will be due. These posting requirements shall also apply to a request for qualifications.
4. Award Based on Best Value. Design-Builder shall award subcontracts to responsible subcontractors based on a best value basis. The solicitation shall identify all evaluation factors and their relative importance to determination of the award. Design-Builder shall develop a written method of determining the proposer who will provide the best value to the Project, which shall include consideration of price and other relevant factors. Design-Builder shall document its basis for making the award.
5. OC SAN Review of Bid Packages and Notice. At least fourteen (14) Days prior to the release of Subcontracted Construction Work for bidding, Design-Builder shall provide OC SAN with a copy of the written notice it will publish (including newspaper advertising) to solicit potential subcontractors and a copy of the Work Packages for the Subcontracted Construction Work. OC SAN reserves the right to request that Design-Builder reasonably revise its published notice or Work Package for Subcontracted Construction Work.
6. Bid/Proposal Opening. Design-Builder shall invite OC SAN to attend all bid and proposal opening(s) for Subcontracted Construction Work and shall, within 48 hours of the bid or proposal opening(s), provide copies or access to all bid or proposal documents provided by all proposers or bidders.
7. Review of Bids, Proposals
 - a. Solicitations shall include a procedure, developed and administered by Design-Builder, for protesting a prequalification determination or contract award. Design-Builder shall notify OC SAN of any protest prior to responding to such protest. Design-Builder shall be solely responsible for determining any protests to any of its subcontract awards.

- b. Design-Builder may reject all bids or proposals and may waive any inconsequential irregularities in any bid or proposal. If Design-Builder rejects a bid or proposal as non-responsive, or otherwise determines the bidder or proposer is not eligible or qualified, Design-Builder shall document the basis for any rejection.
- 8. Contracts. Construction subcontracts shall be on a lump sum or unit price basis, and Design-Builder shall not award contracts to Subcontractors on a basis that uses a percentage of construction cost contracting.
- 9. Rights of OC SAN
 - a. Without limiting anything set forth herein, Design-Builder acknowledges and agrees that OC SAN shall have the right to: (a) review and comment on all Work Packages or procurement documents; (b) attend any bid or proposal openings; (c) attend any meetings with prospective subcontractors; (d) review all bids, proposals, and other information developed or otherwise resulting from any competitive procurement, including Design-Builder's tabulation, scoring, or evaluation materials; and (e) otherwise participate in the contract award process. Design-Builder shall provide OC SAN sufficient time, but in no case less than 20 Days, to exercise its rights regarding the foregoing. Upon contract award, Design-Builder shall provide OC SAN with a description of the competitive process undertaken in connection with such contract award, together with copies of all material documents used in connection therewith and agreements resulting therefrom.
 - b. OC SAN, in its discretion, shall have the right to direct Design-Builder to reject any or all bids and proposals and re-solicit any Subcontracted Construction Work in accordance with the procurement requirements of this Article in the event OC SAN is not satisfied that the competitive process or pricing received is fair, reasonable, and consistent with industry standards for similar services. Design-Builder shall not be entitled to an increase of the GMP or any extension of Contract Time if OC SAN requires Design-Builder to re-solicit any Subcontracted Construction Work due to Design-Builder failing to follow the Contract requirements for solicitation of Subcontracted Construction Work.

C. Noncompetitive Subcontractor Procurement

- 1. Design-Builder may procure Subcontractors without following the above competitive procurement procedures only if:
 - a. The Phase 2 Price is less than \$10,000,000; or
 - b. If the Phase 2 Price is equal to or greater than \$10,000,000, the Subcontracted Construction Work is equal to or less than one-half of one percent (0.5%) of the Phase 2 Price.
- 2. If, following Design-Builder's diligent and good faith solicitation of a number of sources, Design-Builder determines that competition is determined to be inadequate, Design-Builder may, with OC SAN's express written authorization,

utilize a noncompetitive process or may self-perform the Subcontracted Construction Work by following the procurement procedures for Self-Performed Construction Work.

3. For a noncompetitive procurement, Design-Builder may obtain quotes, negotiate price, or utilize any other selection method. Noncompetitively procured Subcontractors must still meet all other requirements of the Contract Documents, including, but not limited to, agreeing to being registered with the Department of Industrial Relations to perform public works and maintaining all appropriate licenses and qualifications to perform the respective Subcontracted Construction Work.

7.8 GMP Proposal

A. Generally

1. As part of Phase 1 Services, Design-Builder shall prepare a GMP Proposal as directed by OC SAN.
2. Prior to providing OC SAN a GMP Proposal, Design-Builder shall provide OC SAN notice of when the GMP Proposal will be submitted. OC SAN shall be provided a sufficient amount of time to review a GMP Proposal.
3. The GMP Proposal shall include and be based upon the Contract Documents and all other information, analysis, findings, and reports provided to Design-Builder during the performance of Phase 1 Services, and shall be prepared in accordance with the Contract Documents, including the Phase 1 Scope of Work.
4. Design-Builder shall develop the GMP on an Open Book Basis, providing OC SAN with full access to all details that make up the GMP Proposal.
5. Each GMP Proposal shall include a detailed and comprehensive description of how the proposed GMP was derived and the material factors on which it was based, all in compliance with the contractual requirements for establishing the GMP, together with any other related information required pursuant to this Article. All costs, bids, quotes, estimates, and other information supporting the GMP Proposal shall be made available to OC SAN.
6. Design-Builder shall not be entitled to an increase of the GMP or any extension of Contract Time related to the GMP Proposal process.

B. Components of GMP Proposal. Design-Builder shall include with the GMP Proposal a written statement of its basis for the GMP, which shall include the following:

1. A list of the Construction Documents, including, among other things, the Plans and Specifications used as the basis for the GMP;
2. A list of the assumptions, exceptions, and clarifications made by Design-Builder in the preparation of the GMP Proposal, which list is intended to supplement the information contained in the Construction Documents;

3. Design-Builder's proposed GMP on an Open Book Basis, including, but not limited to, the following:
 - a. A proposed cost to complete the Design Work for the Project and provide design support services during Phase 2;
 - b. A proposed Cost of Work with Design-Builder's Fee
 - c. A proposed bond cost;
 - d. A proposed insurance cost;
 - e. A proposed Design-Builder Contingency, if any;
 - f. A proposed Allowance, if any;
 - g. A proposed Schedule of Values for the Work; and
 - h. A proposed list of Subcontractors performing Subcontracted Construction Work, if known.
 4. A proposed Phase 2 CPM Schedule.
 5. A proposed Contract Time; and
 6. Any other information requested by OC SAN as necessary or appropriate to negotiate and execute the GMP Amendment.
- C. Early Purchase Items; Early Construction Packages. In the event that an Early Purchase Item Amendment or Early Construction Package Amendment has been executed prior to submittal of the Phase 2 Proposal, a proposal as to the manner in which the technical, price, schedule, and other terms and conditions contained in the Early Purchase Item Amendment or Early Construction Package Amendment will be incorporated and taken account of in the Phase 2 GMP Amendment, with the objective that the Phase 2 GMP Amendment will contain and supersede all of the terms and conditions of any Early Purchase Item Amendment or Early Construction Package Amendment.

7.9 GMP Amendment

A. Obligations of Design-Builder

1. Design-Builder shall be obligated (1) to make a complete bona fide GMP Proposal in accordance with this Article and the Contract Documents, and (2) to negotiate in good faith toward a GMP Amendment based on the GMP Proposal.
2. If the GMP Proposal does not comply with the requirements of the Contract, OC SAN's Representative shall provide written notice to Design-Builder of any additions, corrections, or revisions required to achieve such compliance. In such event, Design-Builder, at its cost and expense and without any increase in the

Phase 1 Fee, shall promptly take all necessary rectification action, making multiple re-submittals if required. The failure of Design-Builder to provide a GMP Proposal in accordance with the Contract Documents shall be a material breach of the Contract.

B. Negotiation, Execution of GMP Amendment

1. OC SAN and Design-Builder acknowledge and agree that each intends to negotiate and enter into a GMP Amendment mutually acceptable to the Parties for the performance of the Work based on the GMP Proposal.
2. The execution and delivery of the GMP Amendment shall establish the GMP and the Contract Time, along with other basic terms and conditions of the Contract which were not established at the Effective Date. Unless otherwise expressly stated by the Parties in the GMP Amendment, the GMP Amendment shall not modify any portion of the Contract Documents.
3. The execution of a GMP Amendment shall not prejudice any right of OC SAN with respect to the remainder of the Construction Work, including OC SAN's right to terminate the Contract and not construct Work Packages.

C. Representations in the GMP Amendment

1. In the event the Parties execute a GMP Amendment, the GMP Amendment shall be deemed to constitute a representation by Design-Builder that:
 - a. It has examined, carefully studied, and thoroughly understands the Contract Documents associated with the Project;
 - b. It has thoroughly reviewed and verified all information provided to or obtained by Design-Builder through the performance of Phase 1 Services, including reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site;
 - c. It has become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Project;
 - d. It is familiar with and is satisfied as to all Applicable Law that may affect cost, progress, and performance of the Project;
 - e. It has considered the information known to Design-Builder, including information commonly known to contractors doing business in the localities of the Site; information and observations obtained from visits to the Site; and the Site-related reports and drawings identified in the Contract Documents, with respect to the effect of such information, observations, and documents on:
 - (i) The cost, progress, and performance of the Project; and
 - (ii) The means, methods, techniques, sequences, and procedures of

construction to be employed by Design-Builder, including any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Contract Documents.

- f. Based on all of the foregoing and the performance of Phase 1 Services, the Site constitutes an acceptable and suitable location for construction of the Project;
- g. It does not consider that further examinations, investigations, explorations, tests, studies, or data are necessary for it to enter into a GMP Amendment for the completion of Work for the GMP within the Contract Time, and in accordance with the other terms and conditions of the Contract;
- h. The Contract Documents are sufficient to enable Design-Builder to determine the GMP and Contract Time; and
- i. Subject to the terms and conditions of the Contract, the GMP can be completed in accordance with the Contract Documents for the GMP within the Contract Time.

D. Failure to Execute GMP Amendment

- 1. If the Parties are unable to reach an agreement on Design-Builder's GMP Proposal and execute a GMP Amendment, OC SAN reserves the right, in its sole discretion, to, without limitation, do any of the following (or, a combination thereof):
 - a. Allow the Design-Builder to complete Phase 1, if not yet completed. OC SAN shall pay Design-Builder only for the compensation agreed to for Phase 1. All deliverables, including, but not limited to, Work Product, Early Purchase Items, and Construction Documents shall become the exclusive property of OC SAN.
 - b. Complete the Project as a traditional design-bid-build project and have the Design-Builder prepare a fully biddable set of Plans and Specifications, provide bid phase support, and provide design support services during construction. OC SAN and Design-Builder shall negotiate compensation for Design-Builder to perform such services based on Design-Builder's RFP Pricing.
 - c. Terminate Design-Builder for convenience in accordance with the General Conditions and take possession of, among other things, any Work Product, Early Purchase Items, and Construction Documents, even if not complete.
 - d. Complete the Project by any other project delivery method, including, but not limited to, soliciting proposals to complete the Project from other firms that submitted Proposals in response to the RFP for this Project, or seek approval from OC SAN's Board that it is in the best interest of OC SAN to formally solicit proposals from other design-build entities. Design-Builder shall not be entitled to bid or propose on any part of the Project.
- 2. OC SAN shall have the right at any time in its discretion to proceed to develop and implement Work Packages with other contractors. OC SAN may exercise such

right during the performance of Phase 1 Services, upon termination of the Contract or upon any failure of the Parties to execute a GMP Amendment.

ARTICLE 8 - PROSECUTION OF THE WORK

8.1 Progress of the Work

- A. Design-Builder shall proceed expeditiously with adequate forces and shall achieve full completion of the Work within the Contract Time. If OC SAN's Representative determines that Design-Builder's progress is such that Design-Builder will not achieve full completion of the Work within the Contract Time, the Parties will meet and discuss how Design-Builder will take measures to ensure full completion of the Work within the Contract Time. If necessary, Design-Builder shall, at no additional cost to OC SAN, take all measures necessary, including working such overtime, additional shifts, Sundays, or holidays as may be required to ensure that the entire Project is completed within the Contract Time. Design-Builder shall reimburse OC SAN for any extra costs or expenses (including the reasonable value of any services provided by OC SAN's employees) incurred by OC SAN as the result of such measures.

8.2 Defective Work

A. Correction of Defective Work

1. Failure to Correct. If Design-Builder fails to correct Defective Work, remove and replace rejected Work as required by OC SAN, or fails to perform the Work in accordance with the Contract Documents, OC SAN may, after seven (7) Days written notice to Design-Builder, correct or remedy any such deficiency if Design-Builder has failed to commence correcting such deficient Work.
2. Correction of Work by OC SAN. In connection with such corrective or remedial action, OC SAN may exclude Design-Builder from all or part of the Site, take possession of all or part of the Work and suspend Design-Builder's services related thereto, take possession of Design-Builder's tools, appliances, construction equipment, and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which OC SAN has paid Design-Builder but which are stored elsewhere. Design-Builder shall allow OC SAN, and the agents, employees, other contractors, and consultants of each of them, access to the Site to enable OC SAN to exercise the rights and remedies to correct the Defective Work.
3. Costs of Correcting Defective Work. All claims, costs, losses, and damages (including, but not limited to, all fees and charges of engineers, architects, attorneys, and other professionals and all court or other dispute resolution costs) incurred or sustained by OC SAN correcting the Defective Work will be charged against Design-Builder, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and OC SAN shall be entitled to reimbursement of the costs from Design-Builder. Such claims, costs, losses, and damages will include, but not be limited to, all costs of repair or replacement of work of others destroyed or damaged by correction,

removal, or replacement of Defective Work. If the Change Order is executed after all payments under the Contract have been made by OC SAN and the Project retention is held in an escrow account as permitted by the Contract Documents, Design-Builder will promptly alert the escrow holder, in writing, of the amount of retention to be paid to OC SAN. Design-Builder shall not be allowed an extension of Contract Time because of any delay in the performance of the Work attributable to OC SAN correcting Defective Work.

- B. Acceptance of Defective Work. If, instead of requiring correction or removal and replacement of Defective Work, OC SAN prefers to accept it, OC SAN may do so. Design-Builder shall pay all claims, costs, losses, and damages (including, but not limited to, all fees and charges of engineers, architects, attorneys, and other professionals and all court or other dispute resolution costs) attributable to OC SAN's evaluation of and determination to accept the Defective Work and for the diminished value of the Work. A Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and OC SAN shall be entitled to an appropriate decrease in the GMP, reflecting the diminished value of Work and reimbursement of all costs incurred by OC SAN.

8.3 Use Prior to Final Completion (Beneficial Occupancy)

- A. OC SAN shall have the right to Beneficially Occupancy of all or a portion of the Work at no additional cost to OC SAN.
- B. If OC SAN elects to take Beneficially Occupancy of any completed or partially completed portions of the Work, OC SAN's Representative shall so document in writing the scope of Work of which it elects to take possession and an inspection shall be made by Design-Builder and OC SAN's Representative of said scope of Work. Based on such inspection, OC SAN's Representative will attempt to list all incomplete and/or deficient items of Work observed, and provide the Design-Builder with such a list. However, the absence of an item from the list shall not relieve Design-Builder of responsibility to perform all of the Work in accordance with the Contract Documents, and any and all areas so occupied will be subject to final inspection after the Design-Builder completes the Punch List, before Final Completion. If such prior use by OC SAN delays the progress of the Work or causes additional expense to Design-Builder, Design-Builder may file a written Request for Change.
- C. Until Final Acceptance of the Work, Design-Builder shall guarantee, through the provision and maintenance of sufficient warranties, the following: (1) that the portions of the Work Beneficially Occupied shall perform at all times as part of a fully integrated system consisting of all elements which are being Beneficially Occupied; (2) that the portions of the Work Beneficially Occupied are free from all defects due to faulty materials, equipment, or workmanship; and (2) that Design-Builder shall promptly make whatever adjustments or corrections which may be necessary to cure any defects, including repairs of any damage to other parts of the system resulting from such defects. OC SAN shall promptly give notice to Design-Builder of observed defects. In the event that Design-Builder fails to make adjustments, repairs, corrections, or other work made necessary by such defects, OC SAN may do so and charge Design-Builder the cost incurred. Design-Builder's warranty shall continue as to any corrected deficiency until the later of (1) the remainder of the original warranty

period or (2) one year after acceptance by OC SAN of the corrected work.

- D. If OC SAN's need to occupy the Work, or any portions thereof, prior to such time as the Work is complete is caused by Design-Builder's failure to complete the Work within the period of performance, including due allowance for extensions of time made in accordance with the Contract Documents, if any, Design-Builder shall bear any and all additional costs associated with completing the Work.

8.4 Substantial Completion

- A. When Design-Builder considers that Substantial Completion has been achieved, the Design-Builder shall notify OC SAN's Representative that the Work is substantially complete to the required stage and is ready for inspection and shall include with its Notice of Substantial Completion of the Work a list of minor items, (including Design-Builder's Punch List) to be completed or corrected that would not affect Beneficial Occupancy or suitability for use.
- B. After receipt of Design-Builder's Notice of Substantial Completion of Work, OC SAN's Representative and Design-Builder, and any other representative as OC SAN's Representative deems appropriate, shall make an inspection of the Work to determine whether the Work has been completed in accordance with the Contract Documents and to review Design-Builder's Punch List. If, in OC SAN's Representative sole opinion, the Work has not achieved Substantial Completion, the Parties shall cease the inspection and all costs incurred by OC SAN as a result of the premature inspection shall be deducted from the payments due Design-Builder. Design-Builder shall thereafter perform all remaining Work to reach Substantial Completion, and re-submit its Notice of Substantial Completion of Work. The inspection of the Work will recommence as set forth above. If the Work has achieved Substantial Completion, a Punch List shall be prepared by OC SAN's Representative and consist of those items listed by Design-Builder to be completed or corrected as supplemented by those items observed during the inspection. Failure to include any items on OC SAN's Punch List shall not alter the responsibility of Design-Builder to complete all Work in accordance with the Contract Documents, nor shall the Punch List amend the Contract Documents. All deficiencies and/or items identified on OC SAN's Punch List must be corrected within 30 Days of said initial inspection conducted at the Substantial Completion phase, unless otherwise specified in writing by OC SAN's Representative.

8.5 Final Completion and Final Acceptance

- A. Final Inspection. Design-Builder shall notify OC SAN's Representative in writing when all Punch List items have been completed, all Work is completed in accordance with the Contract Documents, and all clean-up has been done. Clean-up shall be completed when all waste, materials, excess materials, tools, and equipment such as scaffolding, temporary structures, and unneeded facilities such as fencing and sanitary facilities are removed from the Project. OC SAN's Representative will then make final inspection for the purposes of ascertaining that the Work has been fully completed in accordance with the requirements of the Contract Documents.
- B. Final Completion. After OC SAN's Representative has made the final inspection and is satisfied that the Work has been completed in accordance with the Contract

Documents, including all Punch List items, and is satisfied that all submittals have been made and accepted, including, but not limited to, all materials required by the Contract Documents and all As-Built Drawings by the Design-Builder and any other required record documents have been completed and accepted, all Change Order Work has been completed and accepted by OC SAN's Representative, and all other requirements of the Contract Documents, except for any unexecuted Change Orders, possible future warranty and guarantee Work, have been accomplished, OC SAN's Representative shall certify, in writing, the full completion of the Work and the date thereon.

C. Final Acceptance

1. The Work, after achieving Final Completion, is subject to Final Acceptance by OC SAN. Final Acceptance occurs in accordance with the following:
 - a. Design-Builder is required to provide adequate resources to fully support administrative Project close-out efforts identified in the Contract Documents, including, but not limited to, execution of all Change Orders, agreement on all final quantities, and all other activities specified herein. Such support and completion of all administrative close-out activities as required herein must be provided within the timeframe(s) requested by OC SAN and is condition precedent to Final Acceptance.
 - b. OC SAN's Representative shall, after certifying the date of Final Completion of the Contract, make a final estimate of the amount of Work done thereunder, and the General Manager or designee shall certify, as specified in the OC SAN delegation of authority, as amended, the value of such Work and the date of Final Completion. If the designated authority finds that the Work has been completed according to the Contract Documents, it shall establish the date of Final Acceptance, and find and declare the Work accepted pursuant to this Article, which shall be evidenced by a Notice of Completion.
 - c. A Notice of Completion shall be recorded with the Orange County Clerk Recorder's Office immediately after the Final Acceptance, and in no event later than 15 Days from Final Acceptance.
 - d. Only upon Final Acceptance shall final payment be processed. Processing of final payment shall occur in accordance with provisions in these General Conditions. Final Completion and Final Acceptance are for purposes of issuing final payment, and neither shall act to relieve the Design-Builder from any of its obligations under the Contract Documents, and under no circumstances shall Final Acceptance of the Contract Work waive any rights related to, among other things, claims by OC SAN pertaining to warranties and guarantees, latent defects, indemnity, fraud on the part of the Design-Builder, gross mistakes on the part of the Design-Builder amounting to fraud, or as otherwise provided in the Contract Documents.

8.6 Warranty (Design-Builder's Guarantee)

- A. Generally. Design-Builder warrants and guarantees, without limitation, the following:

1. Work shall: (i) be new, of recent manufacture, and of good quality; (ii) conform to the requirements of the Contract Documents; and (iii) be free of material faults or defects.
 2. All items having a manufacturer's warranty installed under the Contract shall be installed by or under the directive of the manufacturer or its certified agent in order to conform with the manufacturer's warranty requirements. All Work, including any repairs or replacements, involving manufacturer's products shall be performed in accordance with manufacturer's recommendations in order to maintain all warranties.
 3. Neither final payment nor any provision in the Contract Documents shall relieve Design-Builder of responsibility for faulty materials or workmanship.
- B. Warranty Work. Design-Builder shall and hereby does guarantee the entire Work, and its performance through maintenance of sufficient warranties, that the entire Work shall perform at all times as part of a fully integrated system consisting of all Work elements specified in the Contract Documents for a period of one (1) year after the Final Acceptance of the Work by OC SAN. Any portion of the Work with Beneficially Occupancy shall be additionally warranted as described in these General Conditions. During the warranty period, Design-Builder shall repair or remove and replace any Work, together with any other work which may be displaced in so doing that is found to be defective in workmanship and/or materials without any expense to OC SAN, ordinary wear and tear and unusual abuse or neglect excepted. In the event of failure to comply with the above-mentioned conditions within one (1) week after being notified in writing, OC SAN is hereby authorized to proceed to have the defects remedied at the expense of Design-Builder who hereby agrees to pay the cost and charges thereof immediately on demand. Such action by OC SAN will not relieve Design-Builder of the warranties required by this Article or elsewhere in the Contract Documents. Design-Builder's warranty shall continue as to any corrected deficiency until the later of:
1. The remainder of the original one-year warranty period; or
 2. One year after acceptance by OC SAN of the corrected Work.
- C. Warranty Benefits. All guarantees and warranties, expressed or implied, shall inure to the benefit of both OC SAN and Design-Builder during the performance of the Work. Upon Final Completion of the Work, such guarantees and warranties shall inure to the benefit of OC SAN.
- D. Immediate Warranty Work. If, in the opinion of OC SAN, Defective Work is detected during the warranty period which creates a dangerous condition or requires immediate correction or modification to prevent further loss to OC SAN or to prevent interruption of OC SAN operations, OC SAN will attempt to give the notice required by this Article. If Design-Builder cannot be contacted or does not comply with OC SAN's request for correction within a reasonable time as determined by OC SAN, OC SAN may, notwithstanding the provisions of this Article, proceed to make such correction or provide such modification. The costs of such correction or modification shall be charged against the Design-Builder. Such action by OC SAN will not relieve Design-Builder of the warranties required by this section or elsewhere in the Contract

Documents.

- E. Manufacturer's Warranties. Without limiting any warranties or guarantees of Design-Builder in the Contract Documents or at law, Design-Builder shall obtain for OC SAN all warranties that would be given in normal commercial practice and assign to OC SAN any and all manufacturer's or installer's warranties for equipment or materials not manufactured by Design-Builder and provided as part of the Work, to the extent that such third-party warranties are assignable and extend beyond the warranty period set forth in this Article. Assignments will not relieve Design-Builder of its responsibility in the case of a manufacturer's or installer's failure to fulfill guarantee or warranty provisions. Design-Builder shall furnish OC SAN with all warranty and guarantee documents prior to Final Completion of the Project by OC SAN as required. Nothing in these Contract Documents is intended to limit any third-party warranty that provides OC SAN with greater warranty rights than those provided herein.
- F. OC SAN Furnished Materials and Equipment. When specifically indicated in the Contract Documents or when directed by OC SAN, OC SAN may furnish materials or equipment to Design-Builder for installation and incorporation into the Work. In the event any act or failure to act by Design-Builder shall cause a warranty applicable to any materials or products purchased by OC SAN for installation by Design-Builder to be voided or reduced, Design-Builder shall indemnify OC SAN from and against any cost, expense, or other liability arising therefrom, and shall be responsible to OC SAN for the cost of any repairs, replacement, or other costs that would have been covered by the warranty but for such act or failure to act by Design-Builder.
- G. Warranty Not Limited. This Article does not in any way limit the warranty on any items for which a longer warranty is specified or on any items for which a manufacturer or Supplier gives a warranty for a longer period, and shall not limit Design-Builder's liability or responsibility imposed by the Contract or Applicable Law with respect to the Work, including to latent defects, gross mistakes, or fraud. Design-Builder agrees to act as a co-guarantor with such manufacturer or Supplier and shall furnish OC SAN all appropriate guarantee or warranty certificates upon completion of the Project and acceptance by OC SAN. No warranty period, whether provided for in this Article or elsewhere, shall in any way limit the liability of Design-Builder, Sureties, or insurers. Nothing in the Contract Documents shall be construed to limit the rights and remedies available to OC SAN at law or in equity, including, but not limited to, Code of Civil Procedure section 337.15.

ARTICLE 9 - PROJECT SITE

9.1 Use of Project Site

- A. Availability of Site. OC SAN shall furnish the Site. OC SAN shall notify Design-Builder of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Design-Builder must comply in performing the Work. Design-Builder shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment at no additional cost to OC SAN.

- B. Limitation of Use of Site and Other Areas. Rights-of-way, easements, or rights-of-entry for the Project will be provided as shown in the Contract Documents. Unless otherwise specified in the Contract Documents, Design-Builder shall make arrangements, pay for, and assume all responsibility for acquiring, using, and disposing of additional work areas and facilities temporarily required. Design-Builder shall indemnify, defend, and hold OC SAN harmless from all claims for damages caused by such actions. Design-Builder shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Applicable Laws, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. Design-Builder shall not use the Site for anything not directly related to constructing the Work, including, but not limited to, housing employees and other non-Work activities. Design-Builder shall assume full responsibility for any damage to any such land or area, or to OC SAN or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.
- C. Utility Usage. All temporary utilities, including, but not limited to, electricity, water, gas, and telephone, used on the Work shall be furnished and paid for by Design-Builder. Design-Builder shall provide necessary temporary distribution systems, including meters, if necessary, from distribution points to points on the Work where the utility is needed. Upon completion of the Project, Design-Builder shall remove all temporary distribution systems. Design-Builder shall provide necessary and adequate utilities and pay all costs for water, electricity, gas, oil, and sewer charges required for completion of the Project, including, but not limited to, startup and testing required in the Contract Documents. All permanent meters installed shall be listed in Design-Builder's name until the Project is accepted. For Work to be performed in existing OC SAN facilities, Design-Builder may use OC SAN's existing utilities, provided such use is reasonable under the circumstances. If Design-Builder uses OC SAN utilities, it will not need to compensate OC SAN for reasonable consumption of utilities, but Design-Builder will be responsible for any excessive, unreasonable, or wasteful utility usage.
- D. Site Maintenance. During the progress of the Work, Design-Builder shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris, including, without limitation, before the end of each shift. Removal and disposal of such waste materials, rubbish, and other debris shall conform to Applicable Laws. Design-Builder shall furnish trash bins for all debris from construction. All debris shall be placed in trash bins daily. Forms and false-work that are to be re-used shall be stacked neatly concurrently with their removal. Forms and false-work that are not to be re-used shall be disposed of concurrently with their removal.
- E. Cleaning. Prior to completion of the Project, Design-Builder shall clean the Site and make it ready for utilization by OC SAN. At the completion of the Project, Design-Builder shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.
- F. Parking. Design-Builder shall be responsible for the parking of any and all vehicles belonging to its employees or employees of its Subcontractors in a legal manner at no additional expense or inconvenience to OC SAN.

9.2 Conditions at Project Site

- A. Reports and Drawings. OC SAN has provided to Design-Builder those reports known to OC SAN of explorations and tests of subsurface conditions at or contiguous to the Site; and those drawings known to OC SAN of physical conditions relating to existing surface or subsurface structures at the Site, including, among other things, Underground Facilities.
- B. Verification of Reports and Drawings. As part of Phase 1, Design-Builder shall independently verify and confirm the accuracy, completeness, and sufficiency of any documents furnished by OC SAN, and shall promptly report in writing to OC SAN any error, omission, or insufficiency in such documents that Design-Builder discovers.
- C. Unverified Reports and Drawings. For “technical data” in reports and drawings provided to Design-Builder, but not verified during Phase 1, Design-Builder may rely upon the accuracy of the “technical data” contained in such reports and drawings, which were expressly not created or obtained to evaluate or assist in the evaluation of constructability, and are not Contract Documents.
- D. Reports and Drawings. Design-Builder shall make its own interpretation of the “technical data” in the reports and drawings and shall be solely responsible for any such interpretations. Except for reliance on the accuracy of such “technical data,” Design-Builder may not rely upon or make any claim against OC SAN, OC SAN’s Representative, or Designer of Record, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:
 - 1. The completeness of such reports and drawings for Design-Builder’s purposes, including, without limitation, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Design-Builder, and safety precautions and programs incident thereto;
 - 2. Other data, interpretations, opinions, conclusions, and information contained in such reports or shown or indicated in such drawings; or
 - 3. Any Design-Builder interpretation of or conclusion drawn from any “technical data” or any such other data, interpretations, opinions, or information.

9.3 Trenches

- A. Trenches Five Feet or More in Depth. Design-Builder shall submit to OC SAN prior to Construction Work, a detailed plan showing the design of shoring, bracing, sloping, or other provisions to be made for worker protection from hazards of caving ground during the excavation of any trench or trenches five (5) feet or more in depth. If such plan varies from shoring system standards established by the Construction Safety Orders of the California Code of Regulations, Department of Industrial Relations, the plan shall be prepared by a California registered civil or structural engineer. The plan shall not be less effective than the shoring, bracing, sloping, or other provisions of the Construction Safety Orders, as defined in the California Code of Regulations. Design-Builder shall designate, in writing, the “competent person” as defined in Title 8, California Code of Regulations, who shall be present at the Site each day that

trenching and excavation is in progress. The “competent person” shall prepare and provide daily trenching and excavation inspection reports to OC SAN’s Representative. Design-Builder shall also submit a copy of its annual Cal/OSHA trench and excavation permit.

9.4 Differing Site Conditions

- A. Phase 1 Services. Design-Builder shall, during Phase 1, take all measures necessary to determine the conditions of the Site. Design-Builder shall be responsible for any Site conditions that are not as Design-Builder reasonably anticipated after performing Phase 1 Services, and such conditions shall not be considered to materially differ.
- B. Discovery of Differing Site Conditions
 - 1. If Design-Builder encounters a Differing Site Condition, Design-Builder shall within three (3) Days, and before the Differing Site Condition is further disturbed, notify OC SAN in writing of the Differing Site Condition.
 - 2. The written notice from Design-Builder shall describe the specific Differing Site Condition encountered and demonstrate that a Differing Site Condition exists, why Design-Builder could not reasonably have worked around the Differing Site Condition, and how the Differing Site Condition adversely impacted the GMP or Contract Time.
 - 3. OC SAN shall promptly investigate the conditions and, if it finds that there is a Differing Site Condition that causes an increase in the GMP or Contract Time, shall issue a Change Order under the procedures described in these General Conditions.
 - 4. In the event that a dispute arises between OC SAN and Design-Builder as to whether there is a Differing Site Condition or whether it causes an increase in the GMP or Contract Time, Design-Builder shall not be excused from the GMP or Contract Time, but shall proceed with all Work to be performed under the Contract. Design-Builder shall retain any and all rights provided either by contract or by law which pertain to the resolution of disputes and protests between the Parties.

ARTICLE 10 - CONTRACT TIME; SCHEDULE

10.1 Time for Completion

- A. Completing Work. Design-Builder shall complete all or any designated portion of the Work called for under the Contract in all parts and requirements within the Contract Time. If, at any time, Design-Builder’s Critical Path Work progress falls behind schedule, OC SAN reserves the right to require Design-Builder to work overtime to bring the Project back on schedule. Such overtime shall be at the Design-Builder’s expense. Design-Builder shall furnish OC SAN’s Representative a monthly statement showing the following:
 - 1. Number of days originally specified for completion;

2. Number of days charged to date;
 3. Number of days of time extensions approved;
 4. Number of days remaining to completion; and
 5. Revised date for completion.
- B. Time for Completion. The Contract Time shall commence: (1) on the date stated in the Notice to Proceed, or (2) if the Notice to Proceed does not specify a commencement date, then on the date of the Notice to Proceed and, in both cases, shall be completed within the Contract Time. OC SAN is under no obligation to consider early completion of the Work and Contract Time shall not be amended by OC SAN's receipt or acceptance of Design-Builder's proposed earlier completion date. Any difference in time between Design-Builder's early completion and the Contract Time shall be considered a part of the Project float. Design-Builder shall not be entitled to compensation, and OC SAN will not compensate Design-Builder, for delays which impact early completion. Design-Builder shall not, under any circumstances, receive additional compensation from OC SAN (including, but not limited to, direct, indirect, general, administrative, or other forms of overhead costs) for the period between the time of earlier completion proposed by Design-Builder and the Contract Time.
- C. Failure to Perform. Failure of Design-Builder to perform any covenant or condition contained in the Contract Documents within the Contract Time shall constitute a material breach of the Contract entitling OC SAN to terminate Design-Builder's performance under the Contract unless Design-Builder applies for, and receives, an extension of Contract Time in accordance with the procedures set forth in the Contract Documents, as well as any and all other remedies available to OC SAN by law, in equity, or pursuant to the provisions of the Contract.
- D. No Waiver. Failure of OC SAN to insist upon the performance of any covenant or condition within the Contract Time shall not constitute a waiver of Design-Builder's duty to complete performance within the Contract Time unless the waiver is in writing. OC SAN's agreement to waive a specific time provision or to extend the Contract Time for performance shall not constitute a waiver of any other time provisions contained in the Contract Documents. Failure of Design-Builder to complete performance promptly within the additional Contract Time authorized in the waiver or extension of time Change Order shall constitute a material breach of the Contract entitling OC SAN to terminate Design-Builder's performance under the Contract and to any and all other legal or equitable remedies.

10.2 Extension of Time For Delay

- A. Procedure for Extension of Contract Time and Delay Damages. Design-Builder shall not be entitled to any extension of Contract Time or adjustment to the GMP for delay damages unless Design-Builder properly notices the delay and requests a Change Order in accordance with the Change Order provisions in these General Conditions. Design-Builder's failure to timely and fully comply with the Change Order procedures in the Contract Documents shall constitute a waiver of Design-Builder's right to an

extension of Contract Time or adjustment to the GMP for delay damages.

B. Extension of Time

1. OC SAN-Caused Extension of Time. Design-Builder's entitlement to an extension of Contract Time for an OC SAN-caused delay shall only be allowed when, and then only to the extent that, the OC SAN-caused delay extends the Critical Path beyond the Contract Time. The delay to the Critical Path must be established by a proper time impact analysis. Each time impact analysis shall include a fragnet demonstrating how Design-Builder proposes to incorporate the change or delay into the current CPM Schedule. The fragnet shall include the sequence of new and/or existing activity revisions that are proposed to be added to the accepted CPM Schedule that is current at the time the change or delay is encountered. OC SAN shall ascertain the facts and extent of delay and grant extension of time for completing the Work when, in its judgment, the facts justify such an extension. Design-Builder shall not be entitled to an adjustment of Contract Time for delays within the control of Design-Builder. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Design-Builder. If approved, the increase in time required to complete the Work shall be added to the Contract Time.
2. Concurrent Delay. In the event of Concurrent Delay, the Contract Time may be extended, as determined by OC SAN, however, such delay is non-compensable and the GMP shall not be adjusted.
3. Inclement Weather. Design-Builder shall abide by OC SAN's determination of what constitutes inclement weather. Time extensions for inclement weather shall only be granted when the Work stopped during inclement weather is on the Critical Path of the applicable CPM Schedule.
4. Utility-Related Delays. If a delay to the Critical Path results from acts of public utilities or delays caused by failure of a public agency or owner of a utility to provide for removal or relocation of existing main or trunkline utility facilities or other known utility facilities, Design-Builder will be entitled to a time extension, but will not receive an adjustment to the GMP or any other compensation.
5. Force Majeure. If a delay to the Critical Path results from a Force Majeure Event, Design-Builder will be entitled to a time extension, but will not receive an adjustment to the GMP or any other compensation. Such a non-compensable adjustment shall be Design-Builder's sole and exclusive remedy for a Force Majeure Event.

C. No Damages for Reasonable Delay

1. OC SAN's liability to Design-Builder for delays for which OC SAN is responsible shall be limited to only an extension of time unless such delays were unreasonable under the circumstances. In no case shall OC SAN be liable for any costs which are borne by Design-Builder in the regular course of business, including, but not limited to, home office overhead and other ongoing costs.

2. Damages caused by unreasonable OC SAN delay shall be based on actual costs only, no proportions or formulas shall be used to calculate any delay damages. This includes the following allowable costs:
 - a. Those actual necessary costs of idle time of construction equipment, idle time of workers, moving of construction equipment, and hauling of materials and equipment which are incurred solely by reason of the delay and which could not have been avoided by the judicious handling of forces and construction equipment;
 - b. General Conditions Cost that are incurred solely by reason of the delay and extension of the Critical Path; and
 - c. Design-Builder's Fee, on the costs allowed above.

10.3 Liquidated Damages

- A. Liquidated Damages. Time is of the essence. If the Work is not completed within the Contract Time, it is understood that OC SAN will suffer damage. In accordance with Government Code section 53069.85 and Public Contract Code section 7102, being impractical and infeasible to determine the amount of actual damage, it is agreed that Design-Builder shall pay to OC SAN as fixed and liquidated damages, and not as a penalty, the sum stipulated in the Contract or the GMP Amendment for each calendar day of delay until the Work is fully completed. Design-Builder and its Surety shall be liable for any liquidated damages. Any money due or to become due Design-Builder may be retained to cover liquidated damages.
- B. Final Completion Date. Design-Builder agrees that it shall be liable to OC SAN for liquidated damages in an amount determined in the Contract or the GMP Amendment for each and every calendar day beyond the Final Completion Date that Final Completion has not been achieved for the Project.
- C. Milestone Date. Design-Builder agrees that it shall be liable to OC SAN for liquidated damages in an amount determined in the Contract or the GMP Amendment for each and every calendar day beyond a Milestone Date where Final Completion has not been achieved.

10.4 Schedules

- A. General Requirements. Except as otherwise specifically stated in the Contract Documents, this Article will apply to a CPM Schedule for the Work. The CPM Schedule shall be prepared in an electronic scheduling program acceptable to OC SAN and as specified in the Contract Documents. Design-Builder shall deliver the CPM Schedule and all updates to OC SAN in both paper and electronic form. The electronic versions shall be in the format, and include all data used, to prepare the CPM Schedule.
- B. Schedule. The receipt or approval of any CPM Schedule by OC SAN shall not in any way relieve Design-Builder of its obligations under the Contract Documents. Design-Builder is fully responsible to determine and provide for any and all staffing and resources at levels which allow for good quality and timely completion of the

Project. Design-Builder's failure to incorporate all elements of Work required for the performance of the Contract or any inaccuracy in the CPM Schedule shall not excuse Design-Builder from performing Work required within the specified Contract Time. If the required CPM Schedule is not received by the time the first payment under the Contract is due, Design-Builder shall not be paid until the CPM Schedule is received, reviewed, and accepted by OC SAN.

- C. Schedule Contents. The CPM Schedule shall indicate the beginning and completion dates of all phases of construction; critical path for all critical, sequential time related activities; and "float time" for all "slack" or "gaps" in the non-critical activities. The CPM Schedule shall include appropriate time allowances and constraints for submittals, items of interface with Work performed by others, and specified construction, start-up, and performance tests. All float shall be owned by the Project. CPM Schedules indicating early or late completion shall not modify or have any effect on the Contract Time, regardless of whether the schedules are reviewed and/or accepted by OC SAN.
- D. Schedule Updates. Design-Builder shall continuously update its CPM Schedule. Design-Builder shall submit an updated and accurate CPM Schedule to OC SAN: (1) prior to the start of construction, if there are any changes to the initial schedule; (2) with each progress payment request; and (3) whenever requested to do so by OC SAN. OC SAN may withhold progress payments or other amounts due under the Contract Documents if Design-Builder fails to submit an updated and accurate CPM Schedule. Upon OC SAN's request, Design-Builder shall submit any schedules or updates to OC SAN in the native electronic format of the software used to create the CPM Schedule.
- E. Three-Week Look-Ahead Schedules. Design-Builder shall submit a three-week detailed look-ahead schedule at weekly meetings conducted with OC SAN. The three-week look-ahead schedule shall clearly identify all staffing and other resources which in Design-Builder's judgment are needed to complete the Work within the Contract Time, and it shall clearly state the number of staff to be used on each daily segment of the Work.
- F. Acceptance. Acceptance of the CPM Schedule by OC SAN will not impose on responsibility for accuracy, for sequencing, scheduling, or progress of the Work, or compliance with the Contract Documents. Acceptance will not interfere with or relieve Design-Builder from Design-Builder's full responsibility therefor.

ARTICLE 11 - CHANGE IN CONTRACT PRICE, TIME

11.1 Phase 1 Changes

- A. Additional Phase 1 Services. OC SAN may direct Design-Builder to perform additional Phase 1 Services that OC SAN determines to be necessary for the proper completion of Phase 1, which the Parties did not reasonably anticipate would be necessary at execution of the Contract. Additional Phase 1 Services will be compensated at the rates set forth in Design-Builder's RFP Pricing, subject to adjustment as allowed by the Contract Documents. Design-Builder shall not be entitled to a mark-up on the rates

set forth in Design-Builder's RFP Pricing for additional Phase 1 Services. If rates (i.e., hourly or unit rates) for additional Phase 1 Services are not identified in Design-Builder's RFP Pricing, OC SAN will pay for additional Phase 1 Services at a mutually agreeable rate between the Parties based on current market rates.

- B. Excusable Delay. Design-Builder may request additional time to complete a task or submittal milestone only in the event of an excusable delay. For purposes of this Article, an excusable delay is a delay only to the completion of a Phase 1 Service and caused by the following: (i) the actions of OC SAN or its employees; (ii) the actions of those in direct contractual relationship with OC SAN, except for Design-Builder; (iii) the actions of any Governmental Body having jurisdiction over the Project acting in their role as an authority having jurisdiction that Design-Builder had no control over; (iv) the actions of any parties not within the reasonable control of Design-Builder; or (v) a Force Majeure Event. Design-Builder shall not be entitled to any damages or costs resulting from an excusable delay.
- C. Change Order Procedures
1. An increase to the Phase 1 Fee and/or extensions of time for the performance of Phase 1 Services must be approved through a Change Order. If Design-Builder thinks it is entitled to a Change Order, Design-Builder must request a Change Order within five (5) Days of a directive from OC SAN to perform additional Phase 1 Services or of the event otherwise giving rise to the change.
 2. To increase the Phase 1 Fee, Design-Builder's request for a Change Order shall include documentation supporting the need for the request and a cost proposal for the additional Phase 1 that shows the applicable rates and provides a fair estimate of the amount of work needed to complete the additional Phase 1 Services. OC SAN may request that Design-Builder propose other options or efficiencies, including de-scoping a portion of the additional Phase 1 Services.
 3. To receive an extension of time for the performance of Phase 1 Services, Design-Builder's request shall include documentation supporting the need for the request, and a time impact analysis showing the impact of the extension on completion of the Phase 1 Services, as well as the impact on potential Work and on the Work as a whole. The time impact analysis shall include options to mitigate the impact to the Critical Path of the Phase 1 Services, including the commencement of Phase 2. The request shall be limited to only the amount of time that is reasonably necessary for Design-Builder to complete the additional Phase 1 Services. An extension of time shall be a last resort, and shall only be granted if, and to the extent that, Design-Builder cannot reasonably complete the Phase 1 Services on time, including by expediting the Phase 1 Services, at no additional cost to OC SAN.
 4. If additional Phase 1 Services also result in an excusable delay, Design-Builder shall request an increase to the Phase 1 Fee and an extension of time concurrently.
- D. Exclusions from Additional Phase 1 Services. Additional Phase 1 Services shall not include work or services necessary because of negligent errors, omissions, or conflicts of any type in Design-Builder's performance of Phase 1 Services. This includes, but is not limited to, any redesign or revisions to Plans, Specifications, or other documents

required to complete the original scope of Work that are: (i) an ordinary part of the design development and review process, including constructability and value engineering review, or (ii) necessary in order to bring such documents into compliance with Applicable Law of which Design-Builder was aware or should have been aware. All such work or services shall constitute Phase 1 Services and shall be performed at no cost to OC SAN.

- E. Reduction of Phase 1 Services. OC SAN shall have the right to reduce the scope of Phase 1 Services at any time by written notice to Design-Builder. Changes to Phase 1 Services that reduce the scope of Phase 1 Services shall be effective upon the delivery of the written notice by OC SAN pursuant to this Article. Any reduction in the scope of Phase 1 Services shall result in an appropriate reduction in the Phase 1 Fee, which shall be reflected in a Change Order.

11.2 Phase 2 Changes

A. Change Orders Generally

1. All changes to the Contract, including compensation increases and time extensions, shall be through a written Change Order in accordance with this Article. OC SAN, without invalidating the Contract, may order changes in the Work consisting of additions, deletions, or other revisions, and Design-Builder's compensation and the time for completion shall be adjusted accordingly. Whenever any change is made as provided for herein, such change shall be considered and treated as though originally included in the Contract, and shall be subject to all terms, conditions, and provisions of the original Contract. Design-Builder shall not be entitled to a claim or bring suit for damages, whether for loss of profits or otherwise, on account of any decrease or omission of any item or portion of Work to be done. No dispute, disagreement, or failure of the Parties to reach agreement on the terms of the Change Order shall relieve Design-Builder from the obligation to proceed with performance of the Work, including Extra Work, promptly and expeditiously. Any alterations, extensions of time, Extra Work, or any other changes may be made without securing consent of Design-Builder's Surety or Sureties.
2. Design-Builder agrees that one of the purposes of progressive design-build services is to minimize the risk for Change Orders and Change Orders shall be strictly limited. Requests for Change shall be kept to a minimum. This Article shall continue to apply regardless of whether the Parties continue to utilize a GMP for Construction Work or agree to convert the GMP to a Lump Sum Price.
3. Subject to OC SAN approval, the GMP shall not be modified except in the event of the following circumstances: (a) OC SAN directs and authorizes a change which is related solely to discretionary changes by OC SAN (the foregoing excludes changes resulting from the acts, omissions, or other conduct of Design-Builder); (b) Differing Site Conditions; (c) changes directed by a Governmental Body with jurisdiction over the Project, or portions thereof, which could not be reasonably foreseen or anticipated by Design-Builder at the execution of the GMP Amendment; (d) changes necessitated by amendment(s) to or enactment(s) of Applicable Laws which could not be reasonably anticipated or foreseen by Design-

Builder at the execution of the GMP Amendment; (e) changes resulting from emergencies not caused, in whole or in part, by the acts, omissions, or other conduct of Design-Builder or its Subcontractors, employees, agents, or representatives; or (f) where expressly allowed by the Contract Documents.

4. Design-Builder has no right to a Change Order for a time extension, extra work, or other costs of any kind whatsoever (including, without limitation, direct and indirect costs, delay and disruption damages, overhead, profit, or mark-up) resulting from issues related to, among other things, the following: (a) costs that result from Phase 1 Services or that Design-Builder otherwise should have foreseen prior to proposing and agreeing to the GMP; (b) design defects or ambiguities; (c) Site conditions that Design-Builder could have foreseen or discovered prior to Construction Work; (d) constructability issues, including, but not limited to, construction feasibility, schedule, or cost; or (e) where Design-Builder failed to recommend alternative solutions as part of its Phase 1 Services or Constructability Review.
5. Design-Builder shall not be entitled to an increase to the GMP if it contains any contingency or allowances for the costs, which must be utilized and exhausted prior to requesting a Change Order. Design-Builder may only increase the GMP through a duly requested and approved Change Order.

B. Contract Change Order Procedures

1. OC SAN Written Directive. OC SAN may direct changes in the Work by delivering a written directive. To the extent the written directive results in a change to compensation or time, Design-Builder must timely request a Change Order and comply with all Change Order procedures in accordance with this Article. Notwithstanding issuance of a written directive, Design-Builder's failure to timely request a Change Order shall constitute a waiver by Design-Builder of any adjustment to compensation or time extension for Work performed under the directive. OC SAN shall not be liable to Design-Builder for Work performed or omitted by Design-Builder in reliance on verbal orders. OC SAN shall have the right to order changes in the Work by a unilateral Change Order setting forth OC SAN's determination of the reasonable additions or savings in the GMP or Contract Time.
2. Design-Builder's Notice of Change or Delay
 - a. If Design-Builder intends to initiate a Request for Change, Design-Builder shall provide OC SAN with written notice of the underlying facts and circumstances that gave rise to the proposed change within the following times:
 - (i) If due to Differing Site Conditions, within three (3) Days from the discovery date or prior to the alterations of the conditions, whichever is earlier.
 - (ii) If due to a Force Majeure Event, as soon as reasonably practicable under the conditions, which shall be no longer than three (3) Days from the date Design-Builder discovers that the Force Majeure Event gives rise to a change, unless the conditions are such that notice within three (3) Days is

not possible or practicable.

(iii) If due to any other matter that may involve an adjustment to the GMP or Contract Time, within seven (7) Days from the earlier of the discovery date of the matter or when the matter should have been discovered.

b. To be considered valid and complete, the notice of change or delay shall include a general statement of the circumstances giving rise to the notice of change/delay and a reasonable order of magnitude estimate of the additional costs or time. If the circumstances give rise to both a cost adjustment and time extension, Design-Builder shall submit the notice of change and notice of delay concurrently.

3. Request for Change

a. Design-Builder shall submit a Request for Change for any adjustment to a GMP or Contract Time. The Request for Change shall be made prior to incurring any expense and within fifteen (15) Days from either Design-Builder's notice of change or delay or OC SAN's written directive ordering the change. For any costs or information that cannot be determined at the time Design-Builder submits a Request for Change, Design-Builder shall submit to OC SAN notice of the costs or information and all supporting documentation within fifteen (15) Days of when the costs or other information become subject to determination.

b. All Requests for Change shall be dated, numbered sequentially, and shall describe the action or event which Design-Builder believes may require equitable adjustment. Design-Builder shall also provide a description of possible Design-Builder actions or solutions to minimize the cost of the Request for Change; it shall provide a cost and schedule proposal for said Work based upon an estimate of the cost for the anticipated changed Work; and shall submit said price and time impact to OC SAN's Representative whose approval shall be secured before Extra Work is started.

c. The Request for Change shall include all of the following information (unless inapplicable to the change or delay):

(i) A detailed description of the circumstances giving rise to the request;

(ii) A complete itemized cost proposal, including itemized pricing for Subcontractors;

(iii) Supporting documentation for all costs;

(iv) If Design-Builder's pricing is within 10% of OC SAN's independent cost estimate, Design-Builder will be allowed to proceed with the Work.

(v) If Design-Builder's pricing for the Work is more than 10% higher than OC SAN's independent cost estimate, the Parties shall meet and confer to compare pricing and attempt to reconcile any differences. If necessary, Design-Builder will submit revised pricing and an updated cost proposal

following the meet and confer process.

- (vi) A time impact analysis showing the impact of the delay to the Critical Path of the Work;
- (vii) If any costs or information cannot be determined at the time of the Request for Change, a rough order of magnitude of the Change Order costs and the reason the costs or information cannot be determined at the time; and
- (viii) Certification to the accuracy of the Request for Change under penalty of perjury with the following language:

“I certify that (1) the Request for Change is made in good faith, (2) I have reviewed all supporting documentation and data, which is included herewith, and it is accurate and complete, (3) I have determined from my independent review of the Request for Change that the same is meritorious, and that the amount and/or Contract Time requested accurately reflects the Contract adjustment for which I believe OC SAN is liable; and (4) I am duly authorized to certify the Request for Change on behalf of Design-Builder.”

- d. The time impact analysis shall be in the Critical Path method format and shall show the sequencing of all critical and non-critical new activities and/or activity revisions affected by the delay, with logic ties to all affected existing activities noted on the schedule. OC SAN may demand, and Design-Builder shall provide, any additional information supporting the Request for Change, including, but not limited to, native electronic format version of schedules and time impact analyses. Design-Builder shall provide the requested additional information within fifteen (15) Days of the request.
4. OC SAN's Final Decision on Change Order; Ordered Changes. If OC SAN denies the Request for Change or disagrees with the proposal submitted by Design-Builder, it will notify Design-Builder, and OC SAN will provide its opinion of the appropriate price or time extension. If no agreement can be reached, OC SAN shall have the right, in its sole discretion, to order the Work performed, to the extent permitted by law, on a time and materials basis or to issue a unilateral Change Order setting forth OC SAN's determination of the reasonable additions or savings in costs and time attributable to the extra or deleted work. OC SAN's determination shall become final and binding if Design-Builder fails to submit a claim in writing in accordance with the General Conditions to OC SAN within fifteen (15) Days of denying the Request for Change, or for the issuance of a unilateral Change Order, disputing the terms of the unilateral Change Order and providing such supporting documentation for its position as OC SAN may reasonably require.
5. Design-Builder's Waiver of Further Relief
- a. Design-Builder recognizes and acknowledges that timely submission of a formal written notice of change or delay and Request for Change, whether or not the circumstances of the change may be known to OC SAN or available to

OC SAN through other means, is not a mere formality but is of crucial importance to the ability of OC SAN to promptly identify, prioritize, evaluate, and mitigate the potential effects of changes. Any form of informal notice, whether verbal or written (including, without limitation, statements in requests for information, statements in submittals, statements at any job meeting or entries on monthly reports, daily logs, or job meeting minutes), that does not strictly comply with the formal requirements of this Article, shall accordingly be insufficient.

- b. **DESIGN-BUILDER'S FAILURE TO PROVIDE A COMPLETE AND TIMELY NOTICE OF CHANGE OR DELAY, REQUEST FOR CHANGE, NOTICE DISPUTING A UNILATERAL CHANGE ORDER, OR TO COMPLY WITH ANY OTHER REQUIREMENT OF THIS ARTICLE, SHALL CONSTITUTE A WAIVER BY DESIGN-BUILDER OF THE RIGHT TO A GMP ADJUSTMENT ON ACCOUNT OF SUCH CIRCUMSTANCES AND A WAIVER OF ANY RIGHT TO FURTHER RECOURSE OR RECOVERY BY REASON OF OR RELATED TO SUCH CHANGE BY MEANS OF THE CLAIMS DISPUTE RESOLUTION PROCESS OR BY ANY OTHER LEGAL PROCESS OTHERWISE PROVIDED FOR UNDER APPLICABLE LAWS.**

- C. Change Order Format. A Change Order signed by Design-Builder indicates Design-Builder's agreement therewith, including any adjustment in compensation or extension of time, and the full and final settlement of all costs (direct, indirect, and overhead) related to the Work authorized by the Change Order. OC SAN may designate the forms and methods to be used for notices, requests, and Change Orders. If so designated, Design-Builder may only use such forms and methods. Design-Builder shall not reserve a right to assert impact costs, extended job site costs, extended overhead, constructive acceleration, and/or actual acceleration beyond what is stated in the Change Order. No claims shall be allowed for impact, extended job site costs, extended overhead costs, constructive acceleration, and/or actual acceleration due to a multiplicity of changes and/or clarifications. Design-Builder may not change or modify OC SAN's Change Order form in an attempt to reserve additional rights.

D. Determining Adjustments to Compensation

- 1. Pricing Generally. Design-Builder shall not be entitled to any compensation for Construction Work subject to a Change Order except as expressly set forth in this Article.
- 2. Unit Pricing. For the increasing or decreasing of Construction Work within a GMP that is paid for on a unit price basis, the Extra Work shall be paid for according to the unit price established for such Construction Work and the GMP will be adjusted accordingly. An adjustment in compensation will be made for changes which require increases or decreases in the quantity of any unit price item in such a manner as to materially increase or decrease its unit cost, as determined by OC SAN, or which for any other reason cannot in the judgment of OC SAN be equitably paid for at the unit price. Design-Builder's Fee shall not be applied to the unit price if the unit price includes such fees.
- 3. Lump Sum Pricing. Compensation for lump sum Change Orders shall be limited to

expenditures necessitated specifically by the Extra Work. A lump sum Change Order shall be determined on an Open Book Basis and by the same method as establishing a GMP. If the Extra Work is performed by a Subcontractor providing Subcontracted Construction Work, the Subcontractor's pricing for a lump sum Change Order shall be determined on an Open Book Basis and by the same method for determining pricing from Design-Builder when establishing a GMP. Subcontractors will be entitled to a markup for home office overhead and profit on Subcontractor's Cost of Work in an amount not to exceed 10%.

4. T&M Pricing

a. T&M Pricing Generally

- (i) OC SAN may direct Design-Builder to proceed with Extra Work with payment to be made on the basis of the actual verified Cost of Work in the proper performance of the Extra Work, with Design-Builder's Fee applied to the Cost of Work. Design-Builder will be entitled to any verified increased costs for insurance and bonds, which will not be subject to Design-Builder's Fee.
- (ii) If the Extra Work is performed by Subcontractors, payment will be made on the basis of the actual verified Subcontractor's Cost of Work in the proper performance of the Extra Work, with Design-Builder's Fee applied to the Cost of Work. Subcontractors will be entitled to a markup for home office overhead and profit on Subcontractor's Cost of Work in an amount not to exceed 10%. Design-Builder and Subcontractor will be entitled to any verified increased costs for insurance and bonds, which will not be subject to Design-Builder's Fee or Subcontractor's markup for home office overhead and profit.

b. T&M Daily Sheets. Design-Builder must submit timesheets, materials invoices, records of equipment hours, and records of rental equipment hours to OC SAN's for an approval signature each day that Construction Work is performed on a time-and-material basis. OC SAN's Representative's signature on time sheets only serves as verification that the Construction Work was performed and is not indicative of OC SAN's agreement to Design-Builder's entitlement to the cost.

c. T&M Summary Sheet. Design-Builder shall submit a T&M summary sheet, which shall include total actual costs, within five (5) Days following completion of Extra Work on a time-and-material basis. Design-Builder's total actual cost shall be presented in a summary table in an electronic spreadsheet file by labor, material, equipment, and any other costs, along with documentation supporting the costs. Design-Builder's failure to submit the T&M summary sheet within five (5) Days of completion of the Extra Work will result in Design-Builder's waiver for any reimbursement of any costs associated with the Extra Work.

11.3 Procedure for Resolving Claims

- A. Prerequisites. Design-Builder shall timely comply with any and all requirement of the Contract Documents pertaining to notices and requests for changes to a GMP or Contract Time, including, but not limited to, all requirements for a Change Order, as a prerequisite to filing any claim governed by this Article. The failure to timely submit a notice of delay or notice of change, or to timely request a change to the time for completion or Design-Builder's compensation, or to timely provide any other notice or request required herein shall constitute a waiver of the right to further pursue the claim under the Contract or at law.
- B. Intent. Effective January 1, 1991, Section 20104 *et seq.*, of the California Public Contract Code prescribes a process utilizing informal conferences, non-binding judicial supervised mediation, and judicial arbitration to resolve disputes on construction claims of \$375,000 or less. Effective January 1, 2017, Section 9204 of the Public Contract Code prescribes a process for negotiation and mediation to resolve disputes on construction claims. The intent of this Article is to implement Sections 20104 *et seq.* and Section 9204 of the California Public Contract Code. This Article shall be construed to be consistent with all Applicable Law, including, but not limited to, these statutes.
- C. Claims
1. For purposes of this Article, "Claim" means a separate demand by Design-Builder sent by registered mail or certified mail with return receipt requested for:
 - a. An adjustment to the Contract Time including, without limitation, for relief from damages or penalties for delay assessed by OC SAN;
 - b. Payment by OC SAN of money or damages arising from Services done by or on behalf of Design-Builder pursuant to the Contract, payment for which is not otherwise expressly provided or to which Design-Builder is not otherwise entitled; or
 - c. An amount the payment of which is disputed by OC SAN.
 2. A "Claim" does not include any demand for payment for which Design-Builder has failed to provide notice, submit a Request for Change, or otherwise failed to follow any procedures contained in the Contract Documents.
- D. Filing Claims. Claims governed by this Article may not be filed unless and until Design-Builder completes any and all requirements of the Contract Documents pertaining to notices and requests for changes to a GMP or Contract Time, and Design-Builder's Request for Change has been denied in whole or in part. Claims governed by this Article must be filed no later than twenty (20) Days after a request for change has been denied in whole or in part or after any other event giving rise to the Claim, or prior to Final Completion, whichever occurs first. The Claim shall be submitted in writing to OC SAN and shall include on its first page the following words in 16 point capital font: "THIS IS A CLAIM." The Claim shall include all information and documents necessary to substantiate the Claim, including, but not limited to, those identified below. Nothing

in this Article is intended to extend the time limit or supersede notice requirements otherwise provided by Contract Documents. Failure to follow such contractual requirements shall bar any Claims or subsequent proceedings for compensation or payment thereon.

E. Documentation. Design-Builder shall submit all Claims in the following format:

1. Summary description of Claim including basis of entitlement, merit, and amount of time or money requested, with specific reference to the Contract Documents provisions pursuant to which the Claim is made.
2. List of documents relating to Claim:
 - a. Specifications
 - b. Plans
 - c. Clarifications (Requests for Information)
 - d. Schedules
 - e. Other
3. Chronology of events and correspondence
4. Narrative analysis of Claim merit
5. Analysis of Claim cost, including calculations and supporting documents
6. Time impact analysis in the form required by the Contract Documents or, if the Contract Documents do not require a particular format, CPM format, if an adjustment of Contract Time is requested

F. OC SAN's Response. Upon receipt of a Claim pursuant to this Article, OC SAN shall conduct a reasonable review of the Claim and, within a period not to exceed 45 Days, shall provide Design-Builder a written statement identifying what portion of the Claim is disputed and what portion is undisputed. Any payment due on an undisputed portion of the Claim will be processed and made within 60 Days after OC SAN issues its written statement.

1. If OC SAN needs approval from the Board of Directors to provide Design-Builder a written statement identifying the disputed portion and the undisputed portion of the Claim, and the Board of Directors does not meet within the 45 Days or within the mutually agreed to extension of time following receipt of a Claim sent by registered mail or certified mail, return receipt requested, OC SAN shall have up to three (3) Days following the next duly publicly noticed meeting of the Board of Directors after the 45-Day period, or extension, expires to provide Design-Builder a written statement identifying the disputed portion and the undisputed portion.
2. Within 30 Days of receipt of a Claim, OC SAN may request, in writing, additional

documentation supporting the Claim or relating to defenses or claims OC SAN may have against Design-Builder. If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of OC SAN and Design-Builder. Design-Builder shall provide the requested documentation or information within 30 Days of the written request by OC SAN. OC SAN's written response to the Claim, as further documented, shall be submitted to Design-Builder within 30 Days (if the Claim is less than \$50,000, within 15 Days) after receipt of the further documentation, or within a period of time no greater than that taken by Design-Builder in producing the additional information or requested documentation, whichever is greater.

- G. Meet and Confer. If Design-Builder disputes OC SAN's written response, or OC SAN fails to respond within the time prescribed, Design-Builder may so notify OC SAN, in writing, either within 15 Days of receipt of OC SAN's response or within 15 Days of OC SAN's failure to respond within the time prescribed, respectively, and demand in writing an informal conference to meet and confer for settlement of the issues in dispute. Upon receipt of a demand, OC SAN shall schedule a meet and confer conference within 30 Days for settlement of the dispute.

H. Mediation

1. Within 10 business days following the conclusion of the meet and confer conference, if the Claim or any portion of the Claim remains in dispute, OC SAN shall provide Design-Builder a written statement identifying the portion of the Claim that remains in dispute and the portion that is undisputed. Any payment due on an undisputed portion of the Claim shall be processed and made within 60 Days after OC SAN issues its written statement. Any disputed portion of the Claim, as identified by Design-Builder in writing, shall be submitted to nonbinding mediation, with OC SAN and Design-Builder sharing the associated costs equally. OC SAN and Design-Builder shall mutually agree to a mediator within 10 business days after the disputed portion of the Claim has been identified in writing, unless the Parties agree to select a mediator at a later time.
2. If the Parties cannot agree upon a mediator, each Party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the Claim. Each Party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator.
3. For purposes of this Article, mediation includes any nonbinding process, including, but not limited to, neutral evaluation or a dispute review board, in which an independent third party or board assists the parties in dispute resolution through negotiation or by issuance of an evaluation. Any mediation utilized shall conform to the timeframes in this Article.
4. Unless otherwise agreed to by OC SAN and Design-Builder in writing, the mediation conducted pursuant to this section shall excuse any further obligation under Section 20104.4 to mediate after litigation has been commenced.
5. The mediation shall be held no earlier than the date Design-Builder completes the

applicable GMP Work Package or the date that Design-Builder last performs Work on the Project, whichever is earlier. All unresolved Claims shall be considered jointly in a single mediation, unless a new unrelated Claim arises after mediation is completed.

- I. Procedures After Mediation. If following the mediation, the Claim or any portion remains in dispute, Design-Builder must file a Claim pursuant to Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the California Government Code prior to initiating litigation. For purposes of those provisions, the running of the period of time within which a Claim must be filed shall be tolled from the time Design-Builder submits his or her written Claim pursuant to subdivision (a) until the time the Claim is denied, including any period of time utilized by the meet and confer conference.
- J. Civil Actions. The following procedures are established for all civil actions filed to resolve Claims of \$375,000 or less:
 - 1. Within 60 Days, but no earlier than 30 Days, following the filing or responsive pleadings, the court shall submit the matter to non-binding mediation unless waived by mutual stipulation of both Parties or unless mediation was held prior to commencement of the action in accordance with California Public Contract Code section 9204 and the terms of the Contract. The mediation process shall provide for the selection within 15 Days by both Parties of a disinterested third person as mediator, shall be commenced within 30 Days of the submittal, and shall be concluded within 15 Days from the commencement of the mediation unless a time requirement is extended upon a good cause showing to the court.
 - 2. If the matter remains in dispute, the case shall be submitted to judicial arbitration pursuant to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the California Code of Civil Procedure, notwithstanding Section 1114.11 of that code. The Civil Discovery Act of 1986 (Article 3 (commencing with Section 2016) of Chapter 3 of Title 3 of Part 4 of the California Code of Civil Procedure) shall apply to any proceeding brought under this subdivision consistent with the rules pertaining to judicial arbitration. In addition to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the California Code of Civil Procedure, (a) arbitrators shall, when possible, be experienced in construction law, and (b) any Party appealing an arbitration award who does not obtain a more favorable judgment shall, in addition to payment of costs and fees under that chapter, also pay the attorney's fees on appeal of the other Party.
- K. Government Code Claim Procedures
 - 1. This Article does not apply to tort claims and nothing in this Article is intended nor shall be construed to change the time periods for filing tort claims or actions specified by Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the California Government Code.
 - 2. In addition to any and all requirements of the Contract Documents pertaining to notices of and requests for adjustment to the Contract Time, GMP, or compensation or payment for Extra Work, disputed Work, construction claims,

and/or changed conditions, Design-Builder must comply with the claim procedures set forth in California Government Code section 900, *et seq.* prior to filing any lawsuit against OC SAN.

3. Such California Government Code claims and any subsequent lawsuit based upon the California Government Code claims shall be limited to those matters that remain unresolved after all procedures pertaining to adjustment of the Contract Time or GMP for Extra Work, disputed Work, construction claims, and/or changed conditions have been followed by Design-Builder. If Design-Builder does not comply with the California Government Code claim procedure or the prerequisite contractual requirements, Design-Builder may not file any action against OC SAN.
4. **A Government Code claim must be filed no earlier than the date the Work is completed or the date Design-Builder last performs Work on the Project, whichever occurs first. A California Government Code claim shall be inclusive of all unresolved Claims known to Design-Builder or that should have been reasonably known to Design-Builder excepting only new unrelated Claims that arise after the California Government Code claim is submitted.**
- L. Non-Waiver. OC SAN's failure to respond to a Claim from Design-Builder within the time periods described in this Article or to otherwise meet the time requirements of this Article shall result in the Claim being deemed rejected in its entirety, and shall not constitute a waiver of any rights under this Article.
- M. Litigation. Any claims, disputes, or controversies between the Parties arising out of or related to the Contract, which have not been resolved in accordance with the procedures set forth herein shall be resolved in a court of competent jurisdiction.
- N. Duty to Continue Performance. Unless provided to the contrary in the Contract Documents, Design-Builder shall continue to perform Work, pending the final resolution of any dispute or disagreement between Design-Builder and OC SAN.

ARTICLE 12 - MEASUREMENT; PAYMENT

12.1 Payment of Compensation for Phase 1 Services.

- A. Phase 1 Fee. OC SAN shall pay Design-Builder the Phase 1 Fee in the manner and subject to the terms and conditions set forth in the Contract. Design-Builder agrees that the Phase 1 Fee, when earned, shall be Design-Builder's entire compensation and reimbursement for the performance of Phase 1 Services, inclusive of all costs, expenses, and disbursements paid or incurred by Design-Builder, as well as all overhead, administration, risk, and profit, subject to adjustment in the Contract Documents.
- B. Invoicing
 1. Design-Builder shall submit a Schedule of Values with a detailed breakdown of each task performed as part of Phase 1 subject to review and acceptance of OC SAN. Tasks identified on the Schedule of Values shall correspond with tasks on

CPM Project Schedule as submitted by Design-Builder and shall be updated regularly as required by the provisions of the Contract to reflect progress of the Work for Phase 1.

2. Design-Builder shall submit an updated cost loaded CPM Project Schedule including Phase 1 Work (Schedule). Monthly schedule updates and monthly reporting shall be pursuant to provisions of the Contract.
 3. Design-Builder shall submit a monthly itemized statement of Phase 1 Services charges and expenses to OC SAN. The itemized statement shall reflect the scope of work and/or tasks completed, by Design-Builder in performing its Phase 1 Services, all in accordance with the Schedule of Values accepted by OC SAN.
 4. Design-Builder shall include in its monthly invoice, a detailed breakdown of costs associated with the performance of any corrections or revisions of the Work for that invoicing period. Design-Builder shall warrant and certify the accuracy of these costs and understand that submitted costs are subject to audit.
- C. Payment. Payment for the Phase 1 Services shall be made for all undisputed amounts in monthly installment payments after Design-Builder submits an itemized statement to OC SAN for Phase 1 Services actually completed and after OC SAN's written approval of Phase 1 Services, or the portion of the Phase 1 Services for which payment is to be made. Payment shall not constitute acceptance of any Phase 1 Services completed by Design-Builder.
- D. Payment Disputes. Nothing contained in the Contract shall require OC SAN to pay for any Phase 1 Services which are not performed in accordance with the terms and conditions of the Contract. If OC SAN disputes in good faith any payment request for Phase 1 Services, OC SAN shall pay all undisputed amounts when due but may withhold payment of the disputed amount, and shall provide Design-Builder with a written objection indicating the amount being disputed and the reasons then known to OC SAN for the dispute. If Design-Builder is unable to reach agreement with OC SAN as to the payment dispute, Design-Builder may elect to initiate dispute resolution ladder procedures in accordance with Article 11.2 of these General Conditions.

12.2 Payment of Compensation for Phase 2 Work

- A. Payment. Based on applications for payment from Design-Builder in accordance with the requirements of Section 12.2 of these General Conditions, OC SAN will make monthly progress payments for the actual Work completed plus a like percentage of the value of the material suitably stored at the Site or approved storage yards under the control of OC SAN. Design-Builder warrants and guarantees that title to all Work, materials, and equipment covered by any application for payment, whether incorporated in the Project or not, will pass to OC SAN no later than the time of payment free and clear of all Liens.
- B. Materials on Hand. Only those stored materials that will become an integral part of the final completed Work may be included in monthly progress payments. Cost of materials stored will be based on Supplier's invoices. A complete list of invoices shall

be presented to OC SAN's Representative by the Design-Builder prior to completion of each estimate. Design-Builder must present to OC SAN's Representative written evidence substantiating that said purchase price has been paid in full.

- C. Cash Flow Report. Each month, Design-Builder shall provide a cash flow report listing each actual payment and a projection of estimated payments for each remaining month of the Contract period of performance. The total actual/projected amount will be equal to the total Phase 2 Price. The cash flow report shall be submitted as follows:
1. One paper copy showing the total amount paid and projected by month.
 2. One electronic copy (Excel format) breaking down the total monthly paid and projected amounts into the Work categories as shown on the Schedule of Values.
- D. Waiver and Releases. Each application for payment shall show each Subcontractor and Supplier participating in the Work completed during the previous progress period and the dollar amount of such participation. If Design-Builder disputes a Subcontractor's or Supplier's entitlement to a portion of the previous progress payment, Design-Builder shall submit copies of all communications between the Design-Builder and the Subcontractor or Supplier explaining Design-Builder's determination not to render payment to such Subcontractor or Supplier. Each progress payment application shall be accompanied by:
1. A conditional waiver and release upon progress payment pursuant to Civil Code section 8132 for each Subcontractor and Supplier participating in the Work completed during the previous progress period which shall be in an amount no less than the dollar amount of such participation; and
 2. A conditional waiver and release upon progress payment pursuant to Civil Code section 8132 on behalf of Design-Builder which shall be in an amount no less than the dollar amount of the total requested in the payment application.
 3. Completed progress payment form, supplied by OC SAN, which includes a payment certification by the Design-Builder certifying that the Work for which payment is requested has been accomplished.
- Design-Builder shall thereafter, within twenty (20) Days of receipt of the payment from OC SAN, complete an unconditional waiver and release upon progress payment pursuant to Civil Code section 8134 for each Subcontractor and Supplier participating in the Work completed during the previous progress period and an unconditional waiver and release upon progress payment pursuant to Civil Code section 8134 on behalf of Design-Builder in an amount no less than the amount received from OC SAN, and submit the same with Design-Builder's subsequent application for payment.
- E. Certified Payroll. Design-Builder shall file a certified copy of any requested payroll records with the entity that requested such records within ten (10) Days of the date a written request for certified payroll records has been received. The following are guidelines that have been prepared to assist Design-Builder and OC SAN in meeting the requirements for certified payrolls records.

1. Design-Builder and each Subcontractor are to make available to OC SAN, upon request, weekly certified payrolls on California Department of Industrial Relations Form A-1-131 (New 2-80) or shall contain the same information as Form A-1-131 (New 2-80). If requested by OC SAN, the certified payrolls must be submitted electronically on a compact disk (CD).
 2. Each certified payroll shall include a signed and completed "Statement of Compliance".
 3. If it is found that certified payrolls are not in compliance with 1. and 2. above, the processing of progress payments may be delayed.
- F. Security for Money Withheld. Pursuant to Section 22300 of the California Public Contract Code, Design-Builder may request OC SAN to make retention payments directly to an escrow agent or may substitute securities for any money withheld by OC SAN to ensure performance under the Contract. At the request and expense of Design-Builder, securities equivalent to the amount withheld shall be deposited with OC SAN or with a state or federally chartered bank as the escrow agent who shall return such securities to Design-Builder upon satisfactory completion of the Contract. Deposit of securities with an escrow agent shall be subject to a written agreement substantially in the form provided in Section 22300 of the California Public Contract Code.

12.3 Application for Payment of Compensation for Phase 2 Work

A. Cost Breakdown

1. Design-Builder shall furnish on forms approved by OC SAN within ten (10) Days of the Notice to Proceed for Phase 2, a Schedule of Values allocating the entire GMP to the various portions of the Work and prepared in such a form and supported by such data to substantiate its accuracy as OC SAN's Representative may require. This Schedule of Values, unless objected to by OC SAN's Representative, shall be used as a basis for reviewing Design-Builder's applications for payment. Design-Builder shall submit the Schedule of Values prior to submitting its first application for payment, and OC SAN will not issue any payment until it receives and approves the Schedule of Values. The initial Schedule of Values shall be the one submitted and agreed to as part of the GMP Amendment, subject to revisions when required by OC SAN.
2. The cost breakdown shall consist of breaking the Work into each major structure or process system with an itemized breakdown for each structure or process system as follows: dewatering, excavation, foundation material, backfill, concrete, reinforcing steel, underground piping, process equipment, mechanical equipment, piping and valves, electrical, instrumentation, miscellaneous building items and metals, and painting or other finishes. Cost breakdown is subject to OC SAN's Representative's review. Quantities must be included for each item.
3. If Design-Builder fails or refuses to comply with the requirements set forth in this section, Design-Builder shall not be deemed to have provided the required data and shall not be entitled to progress payments unless and until it has provided the

required information and data set forth herein.

- B. Application for Payment Submittal. OC SAN will not accept payment applications from Design-Builder more frequently than once every four weeks. Design-Builder shall submit payment applications to OC SAN using OC SAN's applicable Project Control Management System. The payment application shall include such supporting data as OC SAN may request, which shall set forth in detail the value of the Work done for the period for which the payment request is prepared. Design-Builder shall include any amount earned for authorized Change Orders. Design-Builder shall certify, under penalty of perjury, that all cost breakdowns and periodic estimates accurately reflect the Construction Work performed pursuant to the Contract Documents.
- C. Application for Payment Contents. Design-Builder shall submit with each application for payment:
1. Clear reference to OC SAN's Project or Contract number, as well as OC SAN's Project title and project manager, to which the payment application applies;
 2. Design-Builder's payment application number, payment application date, as well as the Contract payment number the invoice represents; for example, Design-Builder's submittal of its first payment application is payment number 1, its second payment application submittal is payment number 2, and so on. Any Design-Builder re-submittal/revision to a submitted payment application shall have a letter suffix (a, b, c, etc.) added to the payment number, signifying the payment application revision; for example, Design-Builder's first re-submittal of its first payment application shall be designated as payment for number "1a";
 3. An invoice that includes, without limitation, the total GMP, total of additive and deductive Change Orders, total retention, and total Phase 2 Price;
 4. Clear reference to the payment schedule item(s) being invoiced and the appropriate milestone description of activities and/or Work related to the billing;
 5. The itemized and total amount being invoiced (in U.S. dollars), less the amount of all contractual retention and deductions applicable for the invoiced amount (in U.S. dollars), and the resulting total net payment due;
 6. The time period during which the Work was performed and for which the payment application is submitted;
 7. An updated Schedule of Values;
 8. Clear reference to Design-Builder's Taxpayer ID Number;
 9. An updated Phase 2 CPM Schedule for the Work; and
 10. Conditional and unconditional release of liens from Design-Builder, Subcontractors, and Suppliers.
- D. Wire Transfer. Design-Builder shall set-up a secured wire transfer account with OC SAN in advance of any payment applications in excess of One Million Dollars

(\$1,000,000). Payment applications in excess of this amount will not be processed for payment by OC SAN until a secured wire transfer account is set-up, verified, and approved by OC SAN.

- E. Schedule of Values. Each application for payment shall be based on the most recent Schedule of Values submitted by Design-Builder in accordance with the Contract Documents. The Schedule of Values shall allocate the entire GMP among the various portions of the Work. The Schedule of Values shall be prepared in such form and supported by such data to substantiate its accuracy as OC SAN may require. This schedule, unless objected to by OC SAN, shall be used as a basis for reviewing Design-Builder's applications for payment. Applications for payment shall show the percentage of completion of each portion of the Work as of the end of the period covered by the application for payment. The percentage of completion shall be the percentage of that portion of the Work which Design-Builder has actually completed.
- F. Open Book Basis. Design-Builder acknowledges that the GMP is to be administered on an Open Book Basis relative to the costs of the Construction Work. The payment request shall be supported by such data substantiating Design-Builder's right to payment as OC SAN may require, including, but not limited to, payrolls, petty cash accounts, receipted invoices or invoices with check vouchers attached, Subcontractor payment requests submitted to Design-Builder, documentation supporting the Subcontractor's payment requests, and any other evidence or documentation required by OC SAN.
- G. Review of Payment Request. Upon receipt, OC SAN's Representative shall review the payment request to determine whether it is undisputed and suitable for payment. If the payment request is determined to be unsuitable for payment, it shall be returned to Design-Builder as soon as practicable but not later than seven (7) Days after receipt, accompanied by a document setting forth in writing the reasons why the payment request is not proper. OC SAN will make the progress payment within 30 Days after the receipt of an undisputed and properly submitted payment request from Design-Builder, provided that a release of liens and claims has been received from Design-Builder pursuant to Civil Code section 8132. OC SAN shall have the right to adjust any estimate of quantity and to subsequently correct any error made in any estimate for payment.
- H. Retention. From the total thus computed, a deduction shall be made in the amount of five percent (5%) for retention, except where OC SAN has adopted a finding that the Work done under the Contract is substantially complex, and then the amount withheld as retention shall be the percentage specified in the Special Conditions. The amount computed, less the amount withheld for retention and any amounts withheld as set forth below, shall be the amount of Design-Builder's payment request.
- I. Withholdings. OC SAN may withhold a sufficient amount or amounts of any payment or payments otherwise due to Design-Builder, as in its judgment may be necessary to cover:
 - 1. Payments which may be past due and payable for just claims against Design-Builder or any Subcontractors for labor or materials furnished in and about the performance of Work on the Project under the Contract.

2. Defective Work not remedied.
3. Failure of Design-Builder to make proper payments to Subcontractors, Suppliers, or for labor.
4. Completion of the Work if there is a reasonable doubt that the Work can be completed for balance then unpaid.
5. Damage to another contractor or a third party.
6. Amounts which may be due OC SAN for claims against Design-Builder.
7. Failure of Design-Builder to keep the As-Built Drawings up to date.
8. Failure to provide an updated CPM Schedule as required herein.
9. Site cleanup.
10. Failure to comply with Contract Documents.
11. Liquidated damages.
12. Legally permitted penalties.

OC SAN may apply such withheld amount or amounts to payment of such claims or obligations at its discretion except as required by Applicable Law. In so doing, OC SAN shall be deemed the agent of Design-Builder and any payment so made by OC SAN shall be considered as a payment made under contract by OC SAN to Design-Builder and OC SAN shall not be liable to Design-Builder for such payments made in good faith. Such payments may be made without prior judicial determination of claim or obligations. OC SAN will render Design-Builder a proper accounting of such funds disbursed on behalf of Design-Builder.

- J. Stop Payment Notices. OC SAN will, at its option and at any time, retain out of any amounts due Design-Builder, sums sufficient to cover claims plus twenty-five percent (25%) filed pursuant to Section 9350 *et seq.* of the Civil Code of the State of California. Design-Builder shall pay to OC SAN, or OC SAN may deduct from any such payments made by OC SAN to the Design-Builder, all costs and expenses, including, but not limited to, administrative and legal expenses incurred by OC SAN in processing and/or defending against stop payment notices. Design-Builder will use OC SAN's current forms for release of stop payment notices.

12.4 Payments to Subcontractors

- A. Design-Builder shall develop and implement procedures for submittal of applications for progress payments to Design-Builder by Subcontractors in accordance with these General Conditions and the review, processing, and disbursement of progress payments to Subcontractors, along with associated forms and reporting systems. Design-Builder shall disburse progress payments due each Subcontractor within ten (10) Days of Design-Builder's receipt of payment from OC SAN, except to the extent

that Design-Builder's payment of such amount or any portion thereof is subject to withholdings for a stop payment notice, prevailing wage rate violations, or other withholdings of payment(s) due Subcontractors under the terms of the subcontracts or by operation of law. Design-Builder shall indemnify OC SAN against any and all claims arising from or related to the failure of Design-Builder to comply with the prompt payment requirements under the Public Contract Code.

12.5 Final Payment

- A. Design-Builder shall, prior to Final Acceptance, prepare and submit an application for final payment to OC SAN. This should include a detailed Project accounting setting forth all additive Change Orders approved by OC SAN, and, if applicable, all savings generated by Design-Builder during the Project. OC SAN shall, within a reasonable amount of time after receipt, review the Project accounting to determine its accuracy and reconcile any potential savings and approved and unapproved Change Orders to determine the final cost to complete Phase 2. If OC SAN determines that there are savings due to either Party, or if OC SAN determines that the GMP needs to be adjusted upward because of unapproved Change Orders, OC SAN may issue a unilateral additive or deductive Change Order (as applicable). Design-Builder's compliance with this Article is a material term of the Contract necessary for Final Acceptance of the Project, and Design-Builder acknowledges that OC SAN shall not be obligated to release retention until Design-Builder complies with this Article.
- B. Unless Design-Builder advises OC SAN, in writing, prior to acceptance of the final five percent (5%) or the percentage specified in the Contract Documents where OC SAN has adopted a finding of completion, or the return of securities held as described herein, said acceptance shall operate as a release to OC SAN of all claims and all liability to Design-Builder for all things done or furnished in connection with the Work and for every act of negligence of OC SAN and for all other claims relating to or arising out of the Work. If Design-Builder advises OC SAN, in writing, prior to acceptance of final payment or return of the securities that there is a dispute regarding the amount due Design-Builder, OC SAN may pay the undisputed amount contingent upon Design-Builder furnishing a release of all undisputed claims against OC SAN with the disputed claims in stated amounts being specifically excluded by Design-Builder from the operation of the release. No payments, however, final or otherwise, shall operate to release Design-Builder or its Sureties from the faithful Performance Bond, Payment Bond, or from any other obligation under the Contract.
- C. In case of termination of the Contract, any unpaid balance shall be and become the sole and absolute property of OC SAN to the extent necessary to repay OC SAN any excess in the cost of the Work above the GMP.
- D. If Design-Builder fails to complete the Work as specified in the Contract Documents and if the unpaid balance of the Phase 2 Price exceeds the direct and indirect costs of completing the Project, including, but not limited to, all costs generated to insure or bond the Work of substituted contractors or Subcontractors utilized to complete the Work, such excess shall be paid to Design-Builder. If such costs exceed the unpaid balance, Design-Builder shall pay the difference to OC SAN promptly upon demand. On failure of Design-Builder to pay, the Surety shall pay on demand by OC SAN. Any portion of such difference not paid by Design-Builder or Surety within thirty (30) Days following the mailing of a demand for such costs by OC SAN shall earn interest at the

maximum rate authorized by California law.

- E. Final payment of the five percent (5%) retention shall be made no later than 60 Days after the date of Final Acceptance, unless otherwise required by law, provided that a release of liens and claims has been received from Design-Builder pursuant to Civil Code section 8136 and the Contract. In the event of a dispute between OC SAN and Design-Builder, OC SAN may withhold from the final payment an amount not to exceed 150% of the disputed amount.
- F. Within ten (10) Days from the time that all or any portion of the retention proceeds are received by Design-Builder, Design-Builder shall pay each of its Subcontractors from whom retention has been withheld each Subcontractor's share of the retention received. However, if a retention payment received by Design-Builder is specifically designated for a particular Subcontractor, payment of the retention shall be made to the designated Subcontractor if the payment is consistent with the terms of the subcontract.
- G. The making and acceptance of final payment will constitute a waiver of all claims by Design-Builder against OC SAN other than those previously made in accordance with the requirements herein and expressly acknowledged by OC SAN in writing as still unsettled. Design-Builder further agrees that the payment of the final amount due, under the Contract, and the adjustments and payments for any Work done in accordance with any alterations of the same, shall release OC SAN, the Board of Directors, and OC SAN's Representative, and each of their directors, officers, employees, and agents, from any and all claims or liability on account of Work performed under the Contract or any alteration thereof.

12.6 Audit Access to Records

- A. Design-Builder shall maintain all books, records, documents, and other evidence directly pertinent to the performance of the Work under the Contract in accordance with generally accepted accounting principles and practices consistently applied, consistent with those principles set forth in Part 31 of Federal Acquisition Regulation, Contract Cost Principles and Procedures. Design-Builder shall also maintain all financial information and data used by Design-Builder in the preparation or support of any cost submissions required for the Contract, or any Change Order, claim, or other request for equitable adjustment, and a copy of the cost summary or information submitted to OC SAN. OC SAN's authorized representatives shall have access, upon twenty four (24) hours advanced, written notice at all times during normal business hours, to all such books, records, documents, financial information, and all other evidence for the purpose of inspection, audit, and copying. Design-Builder shall, at no cost to OC SAN, provide proper facilities for such access, inspection, and copying purposes. In the event it is determined, by way of an audit or other means, that Design-Builder has been previously overpaid, OC SAN shall have the right to deduct any such overpayment from the Design-Builder's next progress payment or the final payment, or the Design-Builder shall within 10 Days after receiving notice from OC SAN of any such overpayment reimburse OC SAN in an amount equal to the overpayment, plus any applicable interest to which OC SAN is entitled.

- B. Design-Builder shall maintain cost accounting records, cost and pricing data, and any other accounting evidence sufficient to properly reflect all costs of whatever nature pertaining to what Design-Builder has incurred, claims to have incurred, or anticipates it will incur in connection with the Work and any and all GMP Amendments, Change Orders, Requests for Change, or Claims, including, but not limited to, costs of a GMP.
- C. Design-Builder agrees this Article is applicable to the Contract and all GMP Amendments, Change Orders, claims, or other requests for equitable adjustments affecting the period of performance or price. Design-Builder agrees to include this Article in all of the associated subcontracts and make these items applicable to all Subcontractors, at any Tier, in excess of \$10,000.
- D. Audits conducted under this Article shall be in accordance with generally accepted auditing standards and established procedures and guidelines of the reviewing or audit agency.
- E. Design-Builder agrees to the disclosure of all information and reports resulting from access to records under this Article, to OC SAN and other affected agencies. Records under this Article shall be maintained and made available during the performance of the Work under the Contract until three (3) years past final payment, and until final settlement of all disputes, claims, or litigation, whichever occurs later.
- F. This right of access Article applies to all financial records pertaining to the Contract and all Change Orders and GMP Amendments. In addition, this right of access applies to all records pertaining to all contracts, Change Orders, and GMP Amendments:
 - 1. To the extent the records pertain directly to Contract performance;
 - 2. If there is any indication that fraud, gross abuse, or corrupt practices may be involved; or
 - 3. If Design-Builder's performance under the Contract is terminated for default or convenience.
- G. Access to records is not limited to the required retention periods. The authorized representatives of OC SAN shall have access to records at any reasonable time for as long as the records are maintained.

12.7 California False Claims Act

- A. Pursuant to the California False Claims Act (Government Code sections 12650-12655), if Design-Builder knowingly submits a false claim to OC SAN for compensation under the terms of the Contract, it may be held liable for treble damages and up to a ten thousand dollars (\$10,000) civil penalty for each false claim submitted. This Article shall also be binding on all Subcontractors.
- B. Design-Builder or Subcontractor shall be deemed to have submitted a false claim when Design-Builder or Subcontractor: (1) knowingly presents or causes to be presented to an officer or employee of OC SAN a false claim or request for payment or approval; (2) knowingly makes, uses, or causes to be made or used a false record or statement to get a false claim paid or approved by OC SAN; (3) conspires to defraud

OC SAN by getting a false claim allowed or paid by OC SAN; (4) knowingly makes, uses, or causes to be made or used a false record or statement to conceal, avoid, or decrease an obligation to OC SAN; or (e) is a beneficiary of an inadvertent submission of a false claim to OC SAN, and fails to disclose the false claim to OC SAN within a reasonable time after discovery of the false claim.

ARTICLE 13 -TERMINATION; SUSPENSION

13.1 Termination of Phase 1 Services

A. Termination Without Cause

1. OC SAN may, at any time, with or without reason, terminate the Contract during Phase 1 and compensate Design-Builder only for the Phase 1 Services satisfactorily rendered, even if not completed, to the date of termination. Written notice by OC SAN shall be sufficient to stop further performance of Phase 1 Services by Design-Builder. Notice shall be deemed given when received by Design-Builder or no later than ten (10) Days after the day the notice was mailed or provided by electronic telecommunication, whichever is sooner. Design-Builder cannot terminate the Contract without cause.
2. All deliverables, including, without limitation, Construction Documents, Early Purchase Items, Work Product, drawings, documents, engineering, budget costs, preliminary design, schedule, and data developed by Design-Builder or Subcontractors during the Phase 1 shall become the exclusive property of OC SAN and shall be provided to OC SAN within ten (10) Days of OC SAN's notice of termination to Design-Builder.

B. Termination for Cause by OC SAN

1. OC SAN may terminate the Contract during the Phase 1 upon giving of written notice of intention to terminate for cause. Cause shall include, without limitation, the following:
 - a. Material violation of the Contract by Design-Builder;
 - b. Any act by Design-Builder exposing OC SAN to liability to others for personal injury or property damage; or
 - c. Design-Builder is adjudged to be bankrupt, Design-Builder makes a general assignment for the benefit of creditors, or a receiver is appointed on account of Design-Builder's insolvency.
2. Written notice by OC SAN shall contain the reasons for such intention to terminate and unless within ten (10) Days after that notice the condition or violation shall cease, or satisfactory arrangements for the correction thereof be made, the Contract shall upon the expiration of the ten (10) Days cease and terminate. In the event of this termination, OC SAN may secure Phase 1 Services from another contractor. If the expense, fees, and/or costs to OC SAN exceeds the cost of providing Phase 1 Services pursuant to the Contract, Design-Builder shall immediately pay the excess expense, fees, and/or costs to OC SAN upon the

receipt of OC SAN's notice of these expense, fees, and/or costs. The foregoing provisions are in addition to and not a limitation of any other rights or remedies available to OC SAN.

13.2 Suspension of Phase 1 Services by OC SAN

- A. OC SAN may, for any reason through a written notice to Design-Builder, order Design-Builder to suspend performance of Phase 1 Services. Prior to any resumption of Phase 1 Services, at OC SAN's direction, Design-Builder shall notify OC SAN of any additional costs Design-Builder believes it is entitled to within thirty (30) Days of its receipt of the request to resume suspended Phase 1 Services, or such claim shall conclusively be deemed to have been waived. OC SAN shall not be liable for any additional costs, damages, or anticipated profits incurred by Design-Builder or its Subcontractors and the Phase 1 Fee shall not be increased during the period of suspension, except the actual costs incurred by Design-Builder for reasonable and unavoidable costs of suspending Phase 1 Services. If Design-Builder establishes that the suspension of Phase 1 Services had a material and adverse effect on Design-Builder's costs for the performance of Phase 1 Services, Design-Builder shall be entitled to cost relief, as appropriate and determined by OC SAN acting reasonably and subject to Design-Builder's duty to mitigate damages.

13.3 Suspension of Phase 2 Work by OC SAN

- A. OC SAN, in its sole and absolute discretion, may, at any time, with or without cause, suspend performance of all or any part of the Work by giving not less than five (5) Days written notice to Design-Builder unless the circumstances dictate a shorter timeframe such as in an emergency or unsuitable weather. Such notice of suspension of Work will designate the amount and type of labor, material, and equipment to be committed to the Project during the period of suspension. Design-Builder shall use its best efforts to utilize its labor, material, and equipment in such a manner as to minimize costs and/or Project schedule impacts associated with suspension.
- B. Upon receipt of any such notice, Design-Builder shall, unless the notice requires otherwise: (1) immediately discontinue Work on the date and to the extent specified in the notice; (2) place no further orders or subcontracts for material, services, equipment, or facilities with respect to suspended Work other than to the extent required in the notice; (3) promptly make every reasonable effort to obtain suspension upon terms satisfactory to OC SAN of all orders, subcontracts, and rental agreements to the extent they relate to performance of Work suspended; and (4) continue to protect and maintain the Project including those portions on which Work has been suspended.
- C. OC SAN shall not be liable for any additional costs, damages, or anticipated profits incurred by Design-Builder or its Subcontractors and the GMP shall not be increased during the period of suspension, except the actual costs incurred by Design-Builder, for (1) the purpose of safeguarding the Project and material and equipment in transit or at the Site during the period of suspension, (2) Design-Builder's or its Subcontractor's rented equipment which must be maintained at the Site and to the extent costs cannot be mitigated by Design-Builder, or (3) other reasonable and unavoidable costs of shutting down the Project, or restarting the suspended Work.

Design-Builder shall be granted an extension of the Contract Time equal to the number of days performance of Work are suspended; provided, however, that no actual costs or extension of Contract Time shall be granted if the suspension results from Design-Builder's non-compliance with the requirements of the Contract.

D. The suspended Work shall be resumed when ordered in writing by OC SAN.

13.4 Termination of Phase 2 Work for Cause by OC SAN

- A. If Design-Builder refuses or fails to prosecute the Work or any separable part thereof with such diligence as will ensure its completion within the time specified herein, or any authorized extension thereof, or fails to perform the Work in a manner required by the Contract Documents and/or industry standards, or fails to complete such Work within such time as required under the Contract Documents or, if Design-Builder should be adjudged as bankrupt, or is otherwise deemed insolvent by OC SAN based on good cause and is unable to proceed with the Work, or if Design-Builder should make a general assignment for the benefit of creditors, or if a receiver should be appointed on account of insolvency, or if Design-Builder files a petition to take advantage of any debtor's act, or should any Subcontractor violate any of the provisions of the Contract, or if Design-Builder should persistently or repeatedly refuse or fail, except in cases for which an authorized extension of time is provided, to supply enough properly skilled workers or proper materials to complete the Work in the time specified, or if Design-Builder should fail to make prompt payment to Subcontractors for material or labor, or if Design-Builder should persistently disregard laws, or instructions given by OC SAN, or if Design-Builder otherwise substantially fails to fulfill its obligations under the Contract Documents, OC SAN may, without prejudice to any other right or remedy, serve written notice upon Design-Builder and Sureties of OC SAN's intention to terminate Design-Builder's performance under the Contract. Said notice shall contain the reasons for such intention to terminate Design-Builder's performance under the Contract, and, unless, within ten (10) Days after the service of such notice, such violations cease and/or satisfactory arrangements for the corrections thereof have been made, OC SAN may terminate Design-Builder's performance under the Contract and Design-Builder shall not be entitled to receive any further payment until the Work is finished.
- B. In the event of any such termination, OC SAN shall serve written notice thereof upon the Surety and Design-Builder, and the Surety shall have the right to take over and perform the Contract. However, if the Surety, within five (5) Days after the service of a notice of termination, does not give OC SAN written notice of its intention to take over and perform the Contract, and if it serves such notice of its intent to take over and perform the Contract and does not begin performance thereof within fifteen (15) Days from the date of serving said notice, OC SAN may take over the Work and prosecute the same to completion by contract or by any other method it may deem advisable for the account and at the expense of Design-Builder, and the Sureties and/or Design-Builder shall be liable to OC SAN for any excess cost or other damage incurred by OC SAN thereby. In such an event, OC SAN may, without liability for so doing, take possession of and utilize such materials, tools, equipment, supplies, and other property belonging to Design-Builder and/or assume assignment of any and all subcontracts for Subcontractors and/or Suppliers that may be on the Site and be

necessary to complete the Work. For any portion of such Work that OC SAN elects to complete by furnishing its own employees, materials, tools, and equipment, OC SAN shall be compensated in accordance with the schedule of compensation for force account work as stated in the General Conditions.

- C. If the Surety assumes Design-Builder's terminated Work, it shall take Design-Builder's place in all respects for that part and shall be paid by OC SAN for all Work performed by it in accordance with the terms of the Contract Documents. If the Surety assumes the entire Contract, all money due Design-Builder at the time of its default shall be payable to the Surety as the Work progresses, subject to the terms of the Contract.
- D. Design-Builder hereby consents to assigning to OC SAN and/or OC SAN's replacement contractor all subcontracts and other agreements of any and all Subcontractors and/or Suppliers that may be on the worksite and/or may be necessary to complete the Work in the event of Termination for Default or Termination for Convenience, as set forth below. Design-Builder agrees to obtain, by way of a subcontract provision, the consent of each and every Subcontractor and/or Supplier for such assignment prior to the commencement of each such Subcontractor's and/or Supplier's Work on the Project.
- E. In the event of such termination, Design-Builder will be paid the actual amount due based on the quantity of Work completed at the time of termination, less damages caused to OC SAN by acts of Design-Builder causing the termination, including, but not limited to, cost to complete the Work, all costs to OC SAN arising from professional services and attorneys' fees, reasonable overhead, profit, and all costs generated to insure or bond the Work of substituted contractors or subcontractors utilized to complete the Work, such excess shall be paid to the Design-Builder. If such costs exceed the unpaid balance, Design-Builder shall pay the difference to OC SAN promptly upon demand. On failure of Design-Builder to pay, the Surety shall pay on demand by OC SAN. Any portion of such difference not paid by Design-Builder or Surety within thirty (30) Days following the mailing of a demand for such costs shall earn interest at the maximum rate authorized by California law. This payment obligation shall survive completion of the Project and termination or expiration of the Contract.
- F. Design-Builder and OC SAN agree that nothing in this Article is intended to be or is a prevailing party clause as it pertains to attorney's fees.
- G. The foregoing provisions are in addition to and not in limitation of any other rights or remedies under law or in equity available to OC SAN.
- H. If it is later determined by OC SAN that Design-Builder had an excusable reason for not performing, such as a fire, flood, or other event which was not the fault of or was beyond the control of Design-Builder, OC SAN, after setting up a new performance schedule, may allow Design-Builder to continue Work, or treat the termination as a termination for convenience, and the rights and obligations of the Parties shall be the same as if the termination had been issued for the convenience of OC SAN.

13.5 Termination of Phase 2 Work for Convenience by OC SAN

- A. OC SAN may terminate Design-Builder's performance of Work under the Contract, either in whole or in part, at its own discretion, or when conditions encountered during the Work make it impossible or impracticable to proceed, or when OC SAN is prevented from proceeding with the Contract by Act of God, by law, or by official action of a public authority, or upon a determination that such termination is in the best interest and convenience of OC SAN, or whenever OC SAN is prohibited from completing the Work for any reason. OC SAN shall provide no less than ten (10) Days written notice of its intent to terminate the Contract for convenience, and shall provide Design-Builder with consultation with OC SAN prior to termination.
- B. Upon receipt of such written notice of termination, Design-Builder shall:
 - 1. Stop Work as specified in the written notice;
 - 2. Terminate all orders and Subcontractors, except as necessary to complete Work which is not terminated;
 - 3. If directed in writing by OC SAN to do so, assign all right, title, and interest in subcontracts and materials in progress, in which case OC SAN will have the right, at its discretion, to settle or pay any or all claims arising out of the termination of such Subcontractors, but in no event shall recovery by any Subcontractor or Design-Builder include lost profits for uncompleted portions of Work;
 - 4. Deliver or otherwise make available to OC SAN all Construction Documents, Plans, Specifications, Work Product, and such other information and material as may have been accumulated by Design-Builder in performing the Contract whether completed or in process;
 - 5. Settle outstanding liabilities and claims with the approval of OC SAN;
 - 6. Complete performance of such part of the Work as has not been terminated; and
 - 7. Take such other actions as may be necessary, or as may be directed by OC SAN, for the protection and preservation of the Project and/or property related to the Contract.
- C. Upon receipt of OC SAN's written notice of termination for convenience, and within a period of thirty (30) to sixty (60) Days, as determined by OC SAN's Representative at the time of termination, Design-Builder shall submit to OC SAN's Representative a Termination Proposal which shall include, but is not limited to, Design-Builder's estimated costs to be incurred by Design-Builder as a result of the termination for convenience, and as allowed by the Contract Documents, including all documentation to support such costs; the status of the Work at time of termination; the status of termination of Design-Builder's Subcontractor(s) and Supplier(s) agreement(s), including the amount of each said agreement, amount paid under each agreement up to the date of termination, and the amount that currently remains due and owing under each agreement for Work completed as of the date of termination, if any; a list, certified

as to quantity and quality, of termination inventory not previously disposed of, excluding items authorized for disposition by OC SAN's Representative; and any other information and/or documentation as required by OC SAN.

- D. Upon receipt of OC SAN's written notice of termination for convenience, Design-Builder shall submit to OC SAN's Representative a request for final payment, pursuant to the requirements set forth in the Contract Documents. Such request shall be submitted promptly, but no later than sixty (60) Days from the effective date of termination.
- E. The final payment to Design-Builder after termination for convenience shall be limited to amounts due and owing under the Contract at time of termination, including the following:
 - 1. Any actual costs incurred by the Design-Builder for restocking charges;
 - 2. The agreed upon price of protecting the Work in any manner, if any, as directed by OC SAN;
 - 3. The cost of settling and paying claims arising out of the termination of the Work under subcontract agreements or orders with OC SAN's approval, as specified above, exclusive of the amounts paid or payable on account of goods delivered or Work furnished by Subcontractor prior to the effective date of the termination; and
 - 4. The Phase 2 Price allocable to the portion of the Work properly performed, even if not completed, or goods supplied by Design-Builder as of the date of termination, as determined in accordance with the Contract Documents, reduced by any sums previously paid to Design-Builder.
- F. OC SAN shall have the right to withhold, among other things, any portion or the whole of the final payment under this provision in the event there are any outstanding claims for compensation asserted by OC SAN against Design-Builder, or by any third party against OC SAN which arises out of Design-Builder's Work.
- G. Design-Builder shall be entitled to receive only the amounts payable under this Article, and Design-Builder specifically waives any claim for any other amounts or damages, including, but not limited to, any claim for consequential damages or lost profits. The provisions in this Article are in addition to and not in limitation of any other rights or remedies available to OC SAN.
- H. Termination of the Contract shall not relieve Surety of its obligation for any just claims arising out of or relating to the Work performed.
- I. Notwithstanding any other provision of this Article, when immediate action is necessary to protect life and safety or to reduce significant exposure or liability, OC SAN may immediately order Design-Builder to cease Work on the Project until such safety or liability issues are addressed to the satisfaction of OC SAN or the Contract is terminated.

- J. If OC SAN terminates Design-Builder for cause, and it is later determined that the termination was wrongful, such default termination shall automatically be converted to and treated as a termination for convenience. In such event, Design-Builder shall be entitled to receive only the amounts payable under this Article, and Design-Builder specifically waives any claim for any other amounts or damages, including, but not limited to, any claim for consequential damages or lost profits.

ARTICLE 14 - MISCELLANEOUS CONTRACT PROVISIONS

14.1 Governing Law

- A. The Contract Documents have been negotiated between OC SAN and Design-Builder and shall be subject to and interpreted under the laws of the State of California.
- B. By entering into the Contract, the Design-Builder consents and submits to the jurisdiction of the Courts of the State of California, County of Orange, over any action at law, suit in equity, and/or other proceeding that may arise out of the Contract Documents.

14.2 Notice

- A. Any notice required or given under the Contract shall be in writing, be dated and signed by the party giving such notice or its duly authorized representative, and be served as follows:
 - 1. If to OC SAN, by personal delivery or by deposit in the United States mail, or by electronic telecommunication.
 - 2. If to Design-Builder, by personal delivery to Design-Builder or to its authorized representative at the worksite or by deposit in the United States mail, or by electronic telecommunication.
 - 3. If to the Surety or any other person, by personal delivery to the Surety or other person or by deposit in the United States mail or by electronic telecommunication.
- B. All mailed notices shall be in sealed envelopes; shall be sent by certified mail with postage prepaid, return receipt requested; shall be addressed to the addresses and addressees contained in the Contract Documents, or such substitute addresses which a party designates in writing; and shall be served as set forth herein.
- C. All electronic telecommunication, to be effective, shall have a date and time receipt acknowledgment, and shall be clearly identified as a contractual notice under this, and any other applicable, provision of the Contract.

14.3 Partial Invalidity

- A. In the event any article, section, paragraph, sentence, clause, or phrase (collectively referred to hereinafter as "Contract Elements" or singularly as "Contract Element")

contained in the Contract Documents shall be determined, declared, or adjudged invalid, illegal, unconstitutional, or otherwise unenforceable, such determination, declaration, or adjudication shall in no manner affect the other Contract Elements, which shall remain in full force and effect as if the Contract Element declared, determined, or adjudged invalid, illegal, unconstitutional, or otherwise unenforceable, was not originally contained in the Contract Documents.

14.4 Waiver of Rights

- A. Except as otherwise specifically provided in the Contract Documents, no action or failure to act by OC SAN, OC SAN's Representative, or Design-Builder shall constitute a waiver of any right or duty afforded any of them under the Contract Documents, nor shall any such actions or failure to act constitute an approval of or acquiescence in any breach thereunder.

14.5 Separate Contracts

- A. Design-Builder understands that this is not an exclusive contract and that OC SAN shall have the right to negotiate with and enter into separate contracts with others providing the same or similar services as those provided by Design-Builder as OC SAN desires.

14.6 Notice of Third Party Claims

- A. Pursuant to Public Contract Code section 9201, OC SAN shall provide Design-Builder with timely notification of the receipt of any third-party claims relating to the Contract. OC SAN is entitled to recover reasonable costs incurred in providing such notification.

14.7 Cumulative Remedies

- A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the Parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Applicable Laws, by special warranty or guarantee, or by other provisions of the Contract Documents. The provisions of this Article will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

14.8 Survival of Obligations

- A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion, and acceptance of the Project or termination or completion of the Contract or termination of the services of Design-Builder.

14.9 Prohibited Interests

- A. No OC SAN official or representative who is authorized in such capacity and on behalf of OC SAN to negotiate, supervise, make, accept, or approve, or to take part in negotiating, supervising, making, accepting, or approving any engineering, inspection, construction, or material supply contract or any subcontract in connection with construction of the Project, shall be or become directly or indirectly interested financially in the Contract. Design-Builder warrants that it has not paid or given and will not pay or give any third party any money or other consideration for obtaining the Contract.

14.10 Headings

- A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

14.11 State License Board Notice

- A. Contractors are required by law to be licensed and regulated by Contractors' State License Board which has jurisdiction to investigate complaints against contractors if a complaint regarding a patent act or omission is filed within four (4) years of the date of the alleged violation. A complaint regarding a latent act or omission pertaining to structural defects must be filed within ten (10) years of the date of the alleged violation. Any questions concerning a contractor may be referred to the Registrar, the Contractors' State License Board, P.O. Box 26000, Sacramento, California 95826.

14.12 Change In Name Or Nature of Design-Builder's Legal Entity

- A. Should a change be contemplated in the name or nature of Design-Builder's legal entity, Design-Builder shall first notify OC SAN in order that proper steps may be taken to have the change reflected in the Contract Documents and all related documents. No change of Design-Builder's name or nature will affect OC SAN's rights under the Contract Documents, including but not limited to the bonds and insurance.

14.13 Other Legal Provisions

- A. Notices. Design-Builder shall give all notices and comply with Applicable Laws bearing on conduct of Work as indicated and specified by their terms. References to specific laws, rules, or regulations in the Contract or these General Conditions are for reference purposes only, and shall not limit or affect the applicability of provisions not specifically mentioned. If Design-Builder observes that Design Documents are at variance therewith, Design-Builder shall promptly notify OC SAN, in writing, and any necessary changes shall be made as provided for in the Contract or these General Conditions for changes in Work. If Design-Builder performs any Work knowing it to be contrary to such laws, ordinances, rules, and regulations, and without such notice to OC SAN, Design-Builder shall bear all costs arising therefrom.
- B. ADA. Design-Builder shall be responsible for familiarity with the Americans with Disabilities Act ("ADA") (42 U.S.C. section 12101 *et seq.*). The Work shall be

performed in compliance with ADA laws, rules, and regulations. Design-Builder shall comply with the Historic Building Code, including, but not limited to, as it relates to the ADA, whenever applicable.

- C. Mined Material. Design-Builder acknowledges and understands that, pursuant to Public Contract Code section 20676, sellers of "mined material" must be on an approved list of sellers published pursuant to Public Resources Code section 2717(b) in order to supply mined material for the Contract.
- D. Other Laws. All provisions of law required to be inserted in the Contract or Contract Documents pursuant to any Applicable Laws shall be and are inserted herein. If through mistake, neglect, oversight, or otherwise, any such provision is not herein inserted or inserted in improper form, upon the application of either Party, the Contract or Contract Documents shall be changed by OC SAN, at no increase in the GMP or extension of Contract Time, so as to strictly comply with the Applicable Laws and without prejudice to the rights of either Party hereunder.

14.14 Limitation of Liability

- A. Notwithstanding anything to the contrary in this Agreement and to the fullest extent permitted by law, the total aggregate liability of Design Builder to OC San, or anyone claiming by, through, or under OC San, for any and all claims, losses, costs, or damages arising out of, resulting from, or in any way related to the Project or this Contract from any cause or causes, including but not limited to negligence, strict liability, or breach of contract, shall not exceed one hundred fifty percent (150%) of the Contract Price.
- B. The limitation set forth above shall not apply to:
 - 1. Claims covered by insurance required under this Agreement to the extent there are insurance proceeds available;
 - 2. Claims arising from the gross negligence or willful misconduct by Design-Builder;
 - 3. Indemnity obligations expressly assumed by Design Builder under this Contract except for such indemnity obligations where it is determined Design-Builder is not at fault; or
 - 4. Claims arising from violation of law, including environmental laws.

END OF GENERAL CONDITIONS

ATTACHMENT 2

PHASE 1 SCOPE OF WORK

Headworks Electrical Distribution Improvements at Plant No. 2

Project No. P2-141

Phase 1 Scope of Work

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ARTICLE 1 - PHASE 1 ENGINEERING AND PRECONSTRUCTION SERVICES

This attachment describes the scope of services during Phase 1 of P2-141, Headworks Electrical Distribution Improvements at Plant No. 2, hereinafter referred to as "Project". Phase 1 Services consist of those tasks necessary to deliver design documents up to a 100% Design and to develop a Guaranteed Maximum Price (GMP). These tasks address project management, design development, and development of a GMP or multiple GMPs for Phase 2 Services.

The Phase 1 Scope of Work includes the following tasks:

TASK 1 PROJECT MANAGEMENT

TASK 2 FIELD INVESTIGATIONS

TASK 3 DESIGN DEVELOPMENT

TASK 4 NOT USED

TASK 5 PRE-CONSTRUCTION SERVICES AND GMP DEVELOPMENT

Specific tasks and subtasks for Phase 1 are described in the following sections.

1. PROJECT REQUIREMENTS

1.1 BACKGROUND

Distribution Center H (DC-H) at Plant No. 2 houses the electrical distribution equipment that supplies power and control to all headworks facilities through its switchgear and motor control centers (MCCs). Power and control cables from DC-H are routed to their respective areas through an underground duct bank system that connects the various headworks process areas. This duct bank system was installed as part of Plant No. 2 Headworks Replacement Project, Job No. P2-66, which was completed in 2012. Over the past five years, several power and control cables have failed. In many cases, cables were either replaced or abandoned in place (in shared conduits), with new cables routed in spare conduits. Nearly all spare conductors and conduits have been used. A condition assessment of the existing underground duct bank system identified several spare conduits used for the power and control conduits as unusable due to failure of the fiberglass conduit. The Rigid Galvanized Steel (RGS) conduit for the signal cables remains in good condition. Figure 1 depicts the layout of the existing underground duct bank system.



The work includes installing essential electrical and control raceway infrastructure, including conduits, overhead trays, manholes, and junction boxes, while incorporating innovative and cost-effective solutions that are designed to meet site conditions and operational needs. The work must be coordinated with the existing operation of the wastewater treatment facility to ensure minimal interruptions and downtime.

The Design-Builder is responsible for providing engineering services throughout all phases of the Project as described below.

Project No. P2-141
Headworks Electrical Distribution Improvements at Plant No. 2 - Phase 1 SOW
Page 4 of 38

establish design criteria, and include routing and phasing plans, GMP packaging strategy, preliminary cost and schedule models, load list, conduit schedule, single-line diagrams (SLDs), and clearly outlined shutdowns, construction sequencing, and commissioning requirements necessary for GMP development.

The Design-Builder is expected to participate in regular design coordination meetings with OC SAN and may propose multiple GMPs at different stages of design development, including those that support early procurement or early construction packages. Such as, early construction packages to replace temporary cables. The final deliverable of Phase 1, the GMP Proposal, shall reflect all site investigations, design development, and contractual requirements, and shall be submitted on an Open Book basis. Upon OC SAN's acceptance of the GMP, the contract will be amended to authorize Phase 2 services. All Phase 1 deliverables become the exclusive property of OC SAN, and the Design-Builder shall remain responsible for identifying all reasonably discoverable site conditions through due diligence conducted during Phase 1.

In accordance with the Contract Documents, the Design-Builder shall not commence any Phase 2 activities, including Construction, Commissioning, and Project Closeout until OC SAN executes the GMP Amendment and issues a formal Notice to Proceed (NTP) for Phase 2. The Design-Builder may request an early NTP for Construction Work prior to completion of the 100% Construction Documents. However, such early authorization may only be granted at OC SAN's sole discretion and with the Design-Builder's written acceptance. In all cases, no portion of the Project may be constructed until OC SAN has reviewed and approved the corresponding design documents for that specific portion of the work. Additional details on Phase 1 scope and deliverables are described in subsequent sections of this document.

Detailed descriptions of the Project Elements are presented below.

1.3.1 PROJECT ELEMENT 1 – REPLACE POWER AND CONTROL CABLES ALONG WITH ASSOCIATED RACEWAY SYSTEMS

- A. This work involves the installation of new raceway infrastructure to support new power and control cables and conductors. The scope includes the installation of conduits, overhead cable trays, manholes, and junction boxes, with an emphasis on incorporating innovative and cost-effective solutions tailored to site-specific conditions and operational requirements. All work must be carefully coordinated with ongoing wastewater treatment facility operations to minimize disruptions and maintain continuous functionality. It is assumed that DCH, along with associated process areas, will remain in service during construction to support operational needs.

1.3.2 PROJECT ELEMENT 2 – REPLACE OBSOLETE HEADWORKS VARIABLE FREQUENCY DRIVES AND ASSOCIATED CABLE AND CONDUITS

- A. This project element involves replacing obsolete variable frequency drives (VFDs) serving critical Headworks equipment, along with all associated power, control, signaling cables and conduits, to enhance system reliability, efficiency, and maintainability. The scope includes the replacement of seven 4.16kV, 700 HP VFDs (12kV input) for the Main Sewage Pumps (MSPs), as well as sixteen 480V, 75 HP VFDs that operate odor control fans. Work will include field verification, electrical design, specification of new VFD units, integration with existing motor control

systems, coordination with plant operations to minimize service disruptions, and commissioning of the new drives.

- B. Incorporate a fail-safe control strategy into the odor control fan that prevents operation of the fan when there is no air flow.

1.3.3 PROJECT ELEMENT 3 – MSP VIBRATION MONITORING SYSTEM MODERNIZATION

- A. Replace the obsolete Emerson CSI 4500 Vibration Monitoring System with new Bently Nevada Orbit 60 Vibration Monitoring System for the seven MSPs. The existing vibration system cabinets will be replaced with new cabinets housing Orbit 60 Vibration racks and HMI displays. Each pump and motor will receive new vibration transducers with new cables.
- B. Each MSP VFD will receive a HiHi vibration trip from the new vibration monitoring panel serving that MSP.
- C. Each new vibration monitoring rack will be connected to the ICS network and PLC.
- D. See Exhibit 30 for assumptions

1.3.4 COORDINATION WITH OTHER PROJECTS (NOT USED)

TASK 1- PROJECT MANAGEMENT

Design-Builder shall provide all necessary Project management, oversight, and coordination throughout Phase 1. Project Management shall include the following subtasks.

Subtask 1.1 – Project Management and Administration

Project Control System:

- A. The Design-Builder will use OC SAN provided or approved electronic systems as described below in the Document Management Plan. OC SAN will train new users on OC SAN provided systems as needed.

Subtask 1.2– Project Management Documents

As part of Project Management and Administration and within 30 days of notice to proceed with Phase 1, the Design-Builder shall prepare and submit drafts of the following documents for review and concurrence by OC SAN. Basic templates will be provided by OC SAN, but the Design-Builder is responsible for the content. Documents shall be updated as indicated in the deliverables schedule below. Throughout the Project, the Design-Builder must implement the activities described in the documents, ensure the Project team is familiar with their contents, and keep the documents current.

Project Management Plan:

- A. The Project Management Plan (PMP) informs the Project team of the basic requirements and approach. It must promote open, collaborative, and frequent communication between the Design-Builder, OC SAN, and stakeholders. Key topics include:
 - 1. Staff roles and responsibilities
 - 2. Plan for adherence to the Project schedule

3. Structured approach for scope management
 4. Formal change management process
 5. Risk management approach
 6. Quality management process
 7. Communication Plan
 8. Problem resolving, including escalation approach
- B. The PMP shall be concise and focused on Project-specific information necessary to manage the work. Where the Design-Builder uses established standard procedures for certain activities, those procedures may be referenced rather than repeated in full.
- C. Design-Builder shall be responsible for managing Design-Builder's Project execution, schedule, budget, subconsultants, and coordination with other projects. The Design-Builder shall perform the Project management requirements in accordance with the Project specific options identified below.

Project Logs:

1. Decision Log
2. Action Item Log
3. Meeting Log
4. Risk Management Log
5. Progress Report with Cost Model update

Health and Safety Plan:

- A. The health and safety plan outlines the Design-Builder's approach, Project team requirements, and procedures to ensure safety and compliance with all OC SAN procedures and Contractor Safety Standards as well as local, state, and federal regulations. Phase 1 activities include site visits, field investigations, in-person meetings, and compliance with relevant procedures and regulations. The document will be updated for Phase 2 GMP Proposal as construction activities are defined.
- B. Design-Builder shall prepare **Exhibit 11 Project Safety Check List** and **Exhibit 12 - Full Project Safety Review Plan** for review with OC SAN Risk Management during the Preliminary Safety Review Plan Workshop. The workshop shall be held 4 weeks prior to the 60% submittal, at OC SAN offices, and shall be no more than 4 hours. OC SAN will moderate the project safety meetings to review content contained in Exhibit 11 - Project Safety Check List and Exhibit 12 - Full Project Safety Review Plan.

Quality Management Plan:

- A. The Quality Management Plan (QMP) outlines activities and controls to ensure all deliverables meet the Progressive Design-Build Contract and Scope of Work. It details each team member's role in quality control (QC) or assurance (QA), data collection procedures before design, work checks, verification, corrective actions, and document control. The QMP will be updated with the Phase 2 GMP submittal and will provide more details on quality assurance and control activities.
- B. The Design-Builder shall develop and implement a QMP specifically for Phase 1. The plan shall define the purpose, objectives, roles, and responsibilities of the QA/QC and

Independent QC (IQC) Teams, as well as describe the QC processes for preliminary deliverables. Key requirements include:

1. Phase 1 - Design QC Requirements: All evaluation memos, basis-of-design documentation, technical memoranda, preliminary layouts, and GMP-supporting documentation shall undergo internal QC reviews by qualified staff prior to submittal to OC SAN. Documentation of these reviews, including QC checklists and comment logs, shall accompany each submittal.
2. GMP Development Support: The QA/QC process shall verify that scope, quantities, design assumptions, and cost estimates used for GMP development are accurate, coordinated, and well-documented. Inter-discipline coordination and constructability shall be reviewed to support early validation of the proposed scope, schedule, and budget.
3. QC Documentation and Submittals: Each submittal shall include a QC validation affidavit signed by the respective discipline leads and the Design-Builder Team's QA/QC Manager, confirming internal review and resolution of comments. A transmittal letter signed by the Design-Builder Project Manager or Principal-in-Charge shall certify that the documents have been checked and coordinated.
4. OC SAN Oversight and Audits: OC SAN reserves the right to conduct periodic audits of QA/QC procedures and participate in review workshops. The Design-Builder shall respond to OC SAN audit comments within two weeks. If needed, OC SAN may schedule follow-up audits to confirm resolution.
5. Staffing and Budgeting for QA/QC: The Design-Builder shall include sufficient staffing and level of effort to support QA/QC for all Phase 1 design deliverables and GMP development activities.

Document Management Plan:

- A. The Design-Builder will use the OC SAN provided electronic document management systems and submit a plan detailing document management. This plan will include collaboration, communication, and document submission following OC SAN's protocols and naming conventions. It will ensure proper documentation during design, construction, and facility lifecycle phases. The plan should address operations and maintenance staff requirements for documentation.
- B. The Design-Builder shall submit all submittals electronically for review. Electronic submittals shall be in PDF format unless otherwise specified under individual specifications with security restrictions set to enable commenting so that OC SAN's comments can be added to the document using Bluebeam Revu. PDF files shall be searchable and include Bookmarks/Tabs identifying specific sections/sub-sections to separate each product and system.
- C. Systems used for document management:
 1. **MS365 Teams/SharePoint** site will store shared, draft, and working documents. It will be used for document transfers among team members, development and finalization of meeting agendas and minutes, as well as document editing and review.
 - a. Preliminary Design Folder – Contains predesign studies, memos, draft reports, final reports, field test data, modeling data, and decision logs.

- b. Design Folder – Documents pertaining to design development. Meeting minutes and agendas applicable to final design stage.
- 2. **BlueBeam** will be used for drawing reviews and markups in accordance with Section 2.6, Submittal Review Using BlueBeam. Review comment reports will be exported and saved to SharePoint in the appropriate folder.
- 3. **PMWeb** will be the primary Project control system, and the system of record for all Project submittals and deliverables. It supports workflows and electronic approvals for submittals, RFIs, meeting minutes, contract administration, pay requests and change requests.
- D. All Project documents needing formal signatures will be digital and distributed digitally. Digital signatures are equivalent to handwritten ones. Automated system notifications (e.g., in-system notices, system-generated emails, or emails with attachments) are considered formal written notifications per the Progressive Design-Build Contract.

Project Schedule:

- A. Design-Builder shall prepare and maintain a cost-loaded, resource assigned, critical path (CPM) Project Schedule in Primavera P6. The Design-Builder shall prepare and submit monthly schedule updates for all Project activities. See Subtask 5.2 for schedule requirements.
- B. While it is the Design-Builder's responsibility to develop a detailed and comprehensive Baseline Schedule in accordance with the Progressive Design-Build Contract, the following milestones represent OC SAN's current tentative timeline for Project planning purposes:
 - 1. Design-Builder NTP: 2Q 2026
 - 2. Field Investigation & PDR: 3Q 2026
 - 3. Detailed Design to GMP Development Milestone: 2Q 2027
 - 4. GMP Amendment: 3Q 2027
 - 5. Construction Completion: 3Q 2029
- C. See Exhibit 29 for draft Design-Builder Phase 1 schedule

Risk Management.

The Project Management Section shall include overall Project risk management, including both Phase 1 and Phase 2 risks that become evident as the Project develops. The Design-Builder shall hold a collaborative workshop to prepare a Project risk register that includes at a minimum the following information:

- A. Risk Identification
 - 1. Description
 - 2. Date identified
 - 3. Risk originator
 - 4. Category (Project, Internal, External)
 - 5. Type (types are based on category and include mechanical, structural, civil, etc.)
- B. Risk Analysis

- C. Probability that risk may occur (1 very low, 2 low, 3 medium, 4 high, 5 very high/certain)
1. Impact if risk occurs (1 very low, 2 low, 3 medium, 4 high, 5 very high/fatal)
 2. Severity weighting (low, medium, and high calculated from probably * impact scores)

			Impact				
Risks			Very Low	Low	Medium	High	Very High
Most Likely Probability	70-100%	Very High	Medium	Medium	High	High	High
	51-70%	High	Low	Medium	Medium	High	High
	31-50%	Medium	Low	Medium	Medium	Medium	High
	11-30%	Low	Low	Low	Medium	Medium	Medium
	0-10%	Very Low	Low	Low	Low	Low	Medium

3. Affected Project Metrics (cost, schedule, performance, quality, reputation, or other)
 4. High and medium risk items:
 - a. Estimated cost associated with risk
 - b. Timeframe (early, continual, late, undetermined)
 - c. Sort by highest risk and prioritize risks outside the team's control
- D. Risk Response (high and medium risk items only)
1. Triggering event
 2. Response strategy (Monitor, Avoid, Transfer, Mitigate, Accept)
 3. Proposed action plan
- E. Risk Control (high and medium risk items only)
1. Risk Owner
 2. Person Monitoring
 3. Status (new, monitoring, implementing response, risk passed, transferred, changed, closed)
- F. The Design-Builder shall maintain a risk register as a living document and submit updates to OC SAN. To promote the open discussion of risk, the risk register shall be a standing agenda item in all meetings.

Monthly Reporting:

- A. The Design-Builder shall submit monthly reports summarizing Project progress. The monthly progress reports shall include a narrative summarizing the progress of the Project and shall identify any recommended actions by OC SAN or the Design-Builder to mitigate risks or modify the Project approach and scope. Monthly progress reports shall be due by the 15th of each month. Attachments to the monthly progress report shall include:
1. **Summary of work:** Identifying activities worked on and/or completed during the last month including meetings and workshops, progress on deliverables, as well as significant items related to external agencies such as grants, permits, etc.
 2. **Planned Activities:** Summarize planned activities and scheduled meetings/workshops for the next month.

3. **Issues and Concerns:** Identify issues and concerns that may affect Project schedule or budget and require discussion between the Design-Builder and OC SAN. Any increase in cost estimates will require an update to the cost model, following the format and detail requirements described in the Pre-Construction Services and GMP Development Section of the Request for Proposals (RFP).
4. **Progress Schedule:** A variance report with originally scheduled completion dates and updated scheduled completion dates, including explanation of any changes to schedule since the last progress report.

Deliverables:

1. Monthly Schedule Updates (as part of the Monthly Report)
5. **Budget:** For Phase 1 engineering, a Table showing each of the Phase 1 tasks, with the following information for each task: percent of work complete, percent of budget expended, billing for the current reporting period, previous billing, billed to date, budget limit, and budget remaining.
6. **Monthly Report Attachments:**
 - a. Updated CPM and progress schedule in Gantt chart format
 - b. Draft invoice and supporting data.
 - c. Current Action Item Log
 - d. Updated Risk Register
 - e. Updated Decision Log
 - f. Log of changes to scope, cost or schedule

Deliverables:

1. Project Management Plan (periodic updates as needed or requested)
2. Health and Safety Plan (periodic updates as needed or requested)
3. Quality Management Plan (periodic updates as needed or requested)
4. Document Management Plan (periodic updates as needed or requested)
5. Project Schedule (updates included in monthly status reports)
6. Risk Register (updates included in monthly status reports as risk status changes or new risks are identified, submission with each interim design submittal)
7. Monthly Progress Reports, including all required attachments

Subtask 1.3 – Meetings

The Design-Builder shall schedule, prepare for, and conduct Project kickoff and progress meetings with OC SAN, including key firms and individuals from the Design-Builder's Project team, and OC SAN Project team members. The meetings listed below are exclusive of additional meetings for design development, field investigations, permitting, etc., which will be identified in their respective tasks. Design-Builder shall be responsible to prepare the meeting agendas and issue the meeting minutes for review.

The Design-Builder shall transmit the minutes to OC SAN within five business days of the meeting using OC SAN's template, or an approved substitution.

Project Management meetings shall include:

Project Kickoff Meeting:

- A. To initiate the Project, an in-person kickoff meeting will be held for key Project team members, from the Design-Builder and OC SAN to review and discuss Project goals, scope of work, schedule, communication protocols and other required procedures for the execution of the Phase 1 Progressive Design-Build Contract.

Bi-weekly Progress Meetings:

- A. Progress meetings shall be hybrid (in person and remote) and conducted for the duration of Phase 1 and provide a routine forum for reviewing items included in the monthly progress report, discussing ideas, and confirming short-term and long-term Project priorities.

Partnering Meeting:

- A. The Design-Builder shall attend one partnering meeting at the beginning of Phase 1 and three more partnering meetings throughout the remainder of Phase 1. The Partnering meetings shall be in person. The Design-Builder will facilitate the partnering meetings through a 3rd party and provide an agenda prior to meeting for review and comment by OC SAN. The initial partnering meeting shall not be longer than one (1) day, and the subsequent partnering meetings shall not be longer than 4 hours.

Maintainability Workshops

- A. A maintainability workshop shall be held after draft floor plans have been developed to:
 - 1. Review the working space around equipment, accessibility requirements, specific activities required to be performed by maintenance staff, ease of servicing for equipment and devices, means to removing equipment from the point of installation to a location outside the facility.
 - 2. The workshop shall be used to develop a set of project maintainability design rules based on the requirements in Chapter 7 of the Engineering Design Guidelines, coordination with OC SAN staff, lessons learned from prior projects, Design-Builder staff expertise, and manufacturer data.
- B. The maintainability workshop shall be held at OC SAN's facilities and shall generally be 4 hours in length. OC SAN and Design-Builder staff shall attend this workshop.

- C. A follow up maintainability workshop shall be held at OC SAN's facilities to review the draft Project maintainability design rules.
- D. The Project maintainability design rules shall be followed during detailed design. Exception to design rules shall be documented as design decisions in the Project Decision Log.
- E. The Design-Builder shall be responsible for completing the following tasks related to the workshop:
 - 1. Prepare Workshop Package: Develop and distribute a comprehensive package for workshop participants. This package shall include Project plans, process flow diagrams, P&IDs, and any other relevant information selected by the Design-Builder.
 - 2. Project Presentation: Prepare and deliver a presentation outlining the Project scope, key design elements, and considerations related to maintainability.
 - 3. 3D Model Review: If applicable, review the 3D model to support the workshop discussion and facilitate maintainability assessments.
 - 4. Comment Summary: Document all comments and feedback received during the workshop. Summarize the actions taken in response to each comment in a formal memorandum.
 - 5. Documentation Integration: Incorporate all workshop comments, recommendations, and applicable maintainability design rules into the Maintainability Design Memorandum and the Contract Documents.

TASK 2- FIELD INVESTIGATIONS

Field investigations and corresponding condition assessment report will be required to confirm Project and site conditions prior to evaluation of improvement concepts and development of design documents.

Subtask 2.1– Geotechnical Investigation

- A. The Design-Builder shall develop a geotechnical program to support the design and construction of new cable raceway systems while maintaining uninterrupted process operations. The Design-Builder shall begin by reviewing available geotechnical data from Project No. P2-66 and other OC SAN records. Based on this review, the Design-Builder shall identify any data gaps and perform additional investigations if necessary.
- B. If additional work is warranted, the Design-Builder shall coordinate boring locations and all required notifications. Any new field investigations should focus on subsurface conditions and trenching risks. Limited laboratory testing and field screening may be conducted as needed. The final recommendations should also support potential alternate routing strategies to ensure existing systems remain in service throughout construction.
- C. Findings and recommendations shall be submitted as part of this subtask and documented and incorporated into the PDR.
- D. Geotechnical recommendations related to earthwork, shoring, and dewatering will be incorporated into the project-specific technical specifications starting at 60% Design.

Deliverables:

1. Geotechnical Data Report (draft and final)

Subtask 2.2– Utility Investigation

- A. The Design-Builder shall develop a subsurface utility investigation program to support the design and construction of new cable raceway systems. The Design-Builder shall begin by reviewing available Plant No. 2 utility data from Project No. P2-66 and other OC SAN records.
- B. The Design-Builder shall coordinate potholing locations and all required notifications.
- C. Findings shall be incorporated into the project Drawings starting at 60% Design.

Deliverables:

1. Subsurface utility information, incorporated into the 60% Design Drawings.

Subtask 2.3– Topographic Survey

- A. The Design-Builder shall develop a topographic surface map focused on the project area to support development of existing grading drawings at a 1"=20' scale with 0.5-foot contour intervals. Topographic base mapping will be from aerial process only and not ground-survey level accuracy, with limited augmentation (including utility survey of pothole locations, manhole and catch basin rims, survey of subsurface utility exploration paint marks/field designations, and survey of geotechnical investigation borings).
- B. The Design-Builder shall coordinate topographic survey crew site visits and all required notifications.
- C. The topographic survey shall be documented and incorporated into the 60% Design Drawings.

Deliverables:

2. Topographic Survey, incorporated into the 60% Design Drawings.

Subtask 2.4– Electrical Investigation

- A. The Design-Builder shall perform targeted field investigations to verify existing electrical and instrumentation conditions at Distribution Center H and the Headworks facilities served by it. The Design-Builder shall begin by reviewing available Plant No. 2 utility data from Project No. P2-66 and other OC SAN records.
- B. The Design-Builder shall coordinate site visits locations and all required notifications.
- C. Findings and recommendations shall be documented and incorporated into the PDR.

Deliverables:

1. Cable Conduit Condition Assessment Report, incorporated into the PDR.

TASK 3 – DESIGN DEVELOPMENT

As part of this Task the Design-Builder shall prepare the design documents in accordance with the RFP and Article 2 – General Requirements. The design deliverables shall have, at a minimum, the items identified in Table Error! Use the Home tab to apply 0 to the text that you want to appear here.-1 Design Deliverables for each of the interim design milestones.

The following design deliverables are at a minimum required for this Scope of Work. The Design-Builder may propose additional deliverables to aid the development of the design.

Deliverables:

1. PDR for the entire Project (i.e., all GMP packages included in this deliverable)
2. 60% Design Deliverable (one per each GMP package)
3. GMP Bid Set (one per each GMP package)
4. 100% Design Deliverable (one per each GMP package)
5. 100% Issue for Construction (IFC) Design Deliverable (one per each GMP package)

Table Error! Use the Home tab to apply 0 to the text that you want to appear here.-1 Design Deliverables

	PDR	60% Design	100% Issue for Construction	Notes
Design Documentation & Project Support Documentation				
Design Information				
Equipment Sizing Calculations (Major Equipment)	X	X	X	At PDR include equipment data sheets with approximate HP.
Equipment Sizing Calculations (minor Equipment)	X	X	X	At PDR provide list with approximate HP.
Proposed Equipment Suppliers (Major Equipment)	X	X	X	At PDR, include as part of equipment data sheet
Sole Source List	X	X	X	At PDR, include as part of equipment data sheet
Facility O&M				
Operating Philosophies	X	X	X	
O&M Staffing Requirements (Plant Projects Only)	X	X	X	
Electrical				
Lighting Calculations	Not Applicable	Not Applicable	Not Applicable	
Cable Pulling Tension Calculation	Not required	X	X	
Duct bank cable derating and cable fill calculations	Not required	X	X	
Electrical Load Criticality Ranking Table (Plant Projects Only)	X	X	X	
Electrical equipment sizing calcs	X	X	X	
Standby Generator Sizing Calculations	Not Applicable	Not Applicable	Not Applicable	
Project ETAP Database Model and Report	Not required	X	X	The 60% Design is to include load flow and short circuit calculations down to loads, coordination study, and arc flash calculations.
Instrumentation and Control				
Tagging and Equipment Naming Proposal	X	X	X	Naming to be determined by PDR. Proposal to cover naming of equipment and descriptions of equipment/instrumentation assigned to tag numbers.
I/O Allocation & Mapping	X	X	X	This document is to include the layout of equipment for Remote I/O panels, and is used to build up to Real I/O List.
Rack Loading Layout	Not required	X	X	This document builds up to Real I/O List.
Real I/O - Process, Electrical & Vendor	Not required	Not required	X	
Master Instrument & Equipment Index	Not required	X	X	17010 Attachment C. At 60% Design, all tags to be complete with details pending. At 60% Design, to

Table Error! Use the Home tab to apply 0 to the text that you want to appear here.**-1 Design Deliverables**

	PDR	60% Design	100% Issue for Construction	Notes
				<i>include schematic and spec references (including packages) and type. At 100%, details to be assigned.</i>
Tag Pattern Matrix (Loop Numbers)	X	X	X	<i>Design-Builder to estimate and prepare the number of loop numbers required for the Project during PDR. OC SAN will generate a spreadsheet with the allocated loop numbers. Design-Builder to maintain spreadsheet by updating as issued loop numbers are assigned and requesting additional loop numbers as required by design progression. See Engineering Design Guidelines Chapter 13 for more information.</i>
Equipment & Instrumentation Database (EID) - Demolition	X	X	X	<i>OC SAN EIM staff to meet with Design-Builder to review EID process flow and data requirements during PDR phase. EID Demolition submittal is intended to be initial application of EID process for OC SAN manual review prior to full EID preparation.</i>
EID	Not required	X	X	<i>At draft, include tags that are supplied on the submitted drawings.</i>
Construction				
Construction Sequencing Plan	X	X	X	
Construction Schedule	X	X	X	
Construction Submittals Items List	Not required	X	X	
Technical Specifications				
Table of Contents	X	X	X	
Additional GRs (Div 1)	Not required	X	X	
Section 01810, Commissioning	Not required	X	X	
Section 01810 Attachment A	Not required	X	X	
ORTs/Pre-FATs	Not required	X	X	
FAT Narratives and Procedures (separate or combined)	Not required	X	X	
RATs	Not required	X	X	
Civil Specifications (Div 2)	Not required	X	X	

Table Error! Use the Home tab to apply 0 to the text that you want to appear here.-1 Design Deliverables

	PDR	60% Design	100% Issue for Construction	Notes
Structural Specifications (Div 3, 4, 5)	Not required	X	X	
Architectural Specifications (Div 6-10, 12)	Not Applicable	Not Applicable	Not Applicable	
Coating Specification (09800)	Not Applicable	Not Applicable	Not Applicable	
Equipment Specifications (Div 11, 13, 14)	Not Applicable	Not Applicable	Not Applicable	
Mechanical Specifications (Div 15)	Not Applicable	Not Applicable	Not Applicable	
Electrical Specifications (Div 16)	Not required	X	X	
Instrumentation Specifications (Div 17)	Not required	X	X	
Control Strategies (17300)	Not required	X	X	Process, Electrical, Vendor
Drawings				
General				
Cover, List of Drawings, Location & Vicinity	X	X	X	
Process Flow Diagrams	Not Applicable	Not Applicable	Not Applicable	
Demolition				
Demolition Plans and Sections	X	X	X	
Civil				
Key Plans	X	X	X	
Horizontal Control	Not required	X	X	
Paving and Grading	X	X	X	
Yard Piping/Piping Plan	Not Applicable	Not Applicable	Not Applicable	
Piping Profiles	Not Applicable	Not Applicable	Not Applicable	
Site Sections	Not required	X	X	
Civil Details	Not required	X	X	
Standard Civil Details	Not required	X	X	
Landscaping				
Planting Plans	Not Applicable	Not Applicable	Not Applicable	
Irrigation Plans	Not Applicable	Not Applicable	Not Applicable	
Landscaping Details	Not Applicable	Not Applicable	Not Applicable	
Structural				
Structural Plans	Not required	X	X	
Structural Sections	Not required	X	X	
Structural Details	Not required	X	X	
Standard Structural Details	Not required	X	X	
Architectural				
Architectural Renderings	Not Applicable	Not Applicable	Not Applicable	
Architectural Plans	Not Applicable	Not Applicable	Not Applicable	
Architectural Sections	Not Applicable	Not Applicable	Not Applicable	

Table Error! Use the Home tab to apply 0 to the text that you want to appear here.-1 Design Deliverables

	PDR	60% Design	100% Issue for Construction	Notes
Door and Window Schedules	Not Applicable	Not Applicable	Not Applicable	
Architectural Details	Not Applicable	Not Applicable	Not Applicable	
Standard Architectural Details	Not Applicable	Not Applicable	Not Applicable	
Mechanical				
Mechanical Plans	Not Applicable	Not Applicable	Not Applicable	
Mechanical Sections	Not Applicable	Not Applicable	Not Applicable	
Mechanical Details	Not Applicable	Not Applicable	Not Applicable	
Standard Mechanical Details	Not Applicable	Not Applicable	Not Applicable	
Heating, Ventilation and Air Conditioning				
HVAC Plans	Not Applicable	Not Applicable	Not Applicable	
HVAC Sections	Not Applicable	Not Applicable	Not Applicable	
HVAC Details	Not Applicable	Not Applicable	Not Applicable	
Standard HVAC Details	Not Applicable	Not Applicable	Not Applicable	
Electrical				
Electrical Abbreviations	X	X	X	
Electrical Symbol Sheet	X	X	X	
Electrical Demolition Plans	X	X	X	
Electrical Site Plans	X	X	X	
Electrical Area Plans	Not Required	X	X	
Electrical Enlarged Plans	Not required	X	X	
Conduit Plans	Not required	X	X	
Electrical Room Floor Plan(s)	X	X	X	
Lighting and Power Plans	Not required	X	X	
Grounding, Signal and Communication Plans	Not required	X	X	
Hazardous Area Classification Plans	X	X	X	
Electrical Equipment Elevations	Not required	X	X	
Electrical Sections	Not required	X	X	
Electrical Grounding Details	Not required	X	X	
Electrical Standard Details	Not required	X	X	
Electrical Lighting Fixture Schedule	Not required	X	X	
Electrical Control Schematic Diagrams (Major Equip)	Not required	X	X	
Electrical Control Schematic Diagrams (Minor Equip)	Not required	X	X	
Single Line Diagrams	X	X	X	
Cable, Conduit & Tray Schedule and Database (native)	Not required	X	X	

Table Error! Use the Home tab to apply 0 to the text that you want to appear here.-1 Design Deliverables

	PDR	60% Design	100% Issue for Construction	Notes
Electrical Equipment Block Diagrams	Not required	X	X	Block Diagrams are higher level graphical representation of the interconnecting paths of the cables between the various equipment, enclosures, field devices, etc. These are used to develop and backcheck cable/conduit strategy.
Electrical Panel Schedules	Not required	X	X	
Instrumentation and Controls				
NG General - Legends	X	X	X	OC SAN supplied
NG General - Software Templates	X	X	X	OC SAN supplied
NG General - Standard I&C and Installation Details	Not required	X	X	OC SAN and Design-Builder supplied
NG General - Remote I/O Panel Power Distribution	Not required	X	X	OC SAN supplied
NG General - I/O Wiring Schematic	Not required	X	X	OC SAN supplied
NP P&IDs - Main Process, Secondary Process and Utilities	X	X	X	Single train only where applicable for PDR. Duplicate trains may be deferred until 60% Design. P&ID Types examples: Main Process - Primary Basins, Secondary Process - Polymer or plant water, Utilities - Fans, HVAC, Sumps
NP P&IDs - Electrical	X	X	X	
NP P&IDs - Vendor	X	X	X	At PDR, showing interfaces (i.e. utilities.) to establish interface requirements, piping services/sizes, IO signals, etc.
NC Logic Diagram - Block or Control	Not required	X	X	Used only in special cases
NE Panel Layout - DCS/PLC/RIO w/BOM	X	X	X	At PDR, provide a list with size of panel and estimated IO count.
NE Panel Layout - Field Control Panel (non-IO)	X	X	X	Sump panel, local valve control station, Chemical Panel, Sludge Sample Draw Panel
NE Panel Layout - HMI, Fiber Optic, Network Cabinets	Not required	X	X	
NF Fiber Optics - Site & Block Diagrams	X	X	X	
NF Fiber Optics - Connection Details	Not required	X	X	
NI I/O Lists - New and Demo	Not required	X	X	Used only in special cases
NN Network Diagrams	X	X	X	DCS/PLC/RIO, ICS, Office, Substation
NS Riser Diagrams	X	X	X	Access Control, CCTV, Fire, PA, Telephone

Table Error! Use the Home tab to apply 0 to the text that you want to appear here.**-1 Design Deliverables**

		PDR	60% Design	100% Issue for Construction	Notes
NS	Special System Diagrams	Not required	X	X	
ND	P&IDs - Demo	Provide a List	X	X	<i>P&IDs, Network which is demo or modified</i>

Subtask 3.1 – Preliminary Design Report

- A. The Design-BUILDER shall prepare and deliver to OC SAN a draft PDR that will contain site investigation results (from thorough site investigations and analyses performed independently by the Design-BUILDER); recommendations from Task 2 Field Investigations; and quality management reviews.
- B. At a minimum, the PDR shall include the following sections or areas of information:
 - 1. Project summary, goals/objectives, and requirements.
 - 2. Scope of Work for construction on the Project
 - 3. Scope of Work and requirements to keep current OC SAN systems in service
 - 4. Design standards and criteria for the different construction activities.
 - 5. Project approach and methods.
- C. The PDR shall include the following:
 - 1. Sufficient number of drawings to adequately depict the preliminary design of the Project. Engineering Drawings shall comply with OC SAN's Engineering Design Standards. The Design-BUILDER shall download, without charge, an electronic copy of OC SAN's Engineering Design Standards from OC SAN's website at:

<https://www.ocsan.gov/document-center/>
 - 2. Equipment data sheets for all major electrical equipment.
 - 3. Copies of all reports prepared as part of site investigations. Discuss and summarize results and recommendations from studies.
 - 4. Recommendation on any additional environmental studies required or performed for the Project.
 - 5. Summary of all national, State, and local codes, regulations, and standards applicable to the Work.
 - 6. Interfaces with existing OC SAN's operations.
 - 7. A cost estimate developed and updated by the Design-BUILDER for the Project and narrative for the Project shall be included in the PDR and shall serve as the initial cost estimate (see Subtask 5.1).
 - 8. Implementation Plan: At a minimum, the implementation plan shall:
 - a. Identify adjacent OC SAN or external projects that may require coordination, including spatial conflicts, overlapping schedules, and utility/service tie-ins.
 - b. Develop a Preliminary Commissioning Package List that categorizes major electrical and instrumentation components into logical commissioning units to align with construction sequencing.
 - c. Provide a Preliminary Construction Sequencing Plan, including narrative descriptions and sequential graphics to show viable construction and commissioning paths. The plan shall address potential constraints and propose alternatives to minimize schedule and cost risks.

- d. Describe Constructability Issues that could affect construction or execution, evaluate their likelihood and potential impact, and propose mitigation measures.
 - e. Address Temporary Power and Control Requirements to maintain facility operations during construction. This includes generator and temporary electrical equipment sizing, redundancy, safety measures, and monitoring provisions.
 - f. Address Temporary Flow Handling Requirements such as shutdowns, tie-ins, bypasses, or diversions necessary to maintain facility operations during construction. This includes pump sizing, redundancy, safety measures, and monitoring provisions.
9. An updated Project schedule detailing the Design-Builder's approach to construction sequencing for the Project to the extent feasible based on the level of design. The Project Schedule shall incorporate plans to minimize disruptions to ongoing operations and the community.
10. Structural Design Parameters: The structural design parameters shall establish the basis of design for all new or modified structural elements associated with the replacement of power and control cables and Headworks VFDs. This includes foundations, supports, and equipment pads for electrical infrastructure. Key requirements include:
- a. Codes & Standards: Identify applicable structural codes and clearly define how they will be applied without repeating standard code language.
 - b. Seismic Criteria: Provide seismic design criteria based on existing geotechnical data and fault proximity and define seismic classification for each relevant structure.
 - c. Construction & Materials: Describe construction methods and minimum material standards for concrete (including coatings), steel, and anchorage components.
 - d. Design Loads: Define structural loads including dead, live, seismic, wind, and equipment loads, along with applicable load combinations.
 - e. Vibration Isolation: Identify vibrating equipment and define how it will be structurally isolated, especially for the new 700 HP and 75 HP VFDs.
 - f. Pipe & Raceway Supports: Outline design approach for supports associated with trays, cables, and any utility interfacing.
11. Electrical Design Requirements: The Design-Builder shall evaluate and document electrical system requirements to support the replacement of critical power and control infrastructure.
- a. Codes and Standards: Apply relevant electrical codes, standards, and OC SAN best practices. There is no need to restate standard building code provisions.
 - b. System Description: Provide an overview of the electrical system, including:
 - i. Thermal and electrical soil resistivity
 - ii. UPS sources and routing (if applicable)
 - iii. Cable routing methods (e.g., conduit, cable tray)
 - iv. Description and phasing of cable raceway improvements
 - v. System coordination with other concurrent projects

- c. Submit preliminary:
 - i. Single-line diagrams
 - ii. Electrical site plans (including any cable tray and duct bank routing)
 - iii. Electrical room layout plans
 - iv. Cable and Conduit Schedule
 - d. List of OC SAN Division 16 specification sections required for this Project
 - e. Coordination with Other Projects Identify electrical coordination needs with other OC SAN projects referenced in the Project scope.
 - f. Calculations and Technical Analyses: Include:
 - i. Field data collection, cable tracing, and cable conduit condition assessment
 - ii. Final Load List (with HP, voltage levels)
 - iii. Temporary power requirements and equipment sizing (if applicable)
 - g. Preliminary studies: Motor Starting, Cable and Conduit Sizing, Voltage Drop, Cable Pull, Tray Fill, and Derating
12. Instrumentation and Control: The Design-Builder shall provide a preliminary description of the instrumentation and control (I&C) systems to support the new electrical and VFD infrastructure.
- a. System Overview: Summarize the I&C system including:
 - i. Existing PLCs, RIOS, and control panel tag numbers and location
 - ii. Recommended modifications to existing facility I&C systems
 - b. Tagging and Standards:
 - i. Define naming, numbering, and tagging conventions based on OC SAN standards
 - c. Instrumentation:
 - i. Identify field instruments affected by this scope of work.
 - d. Preliminary Documentation:
 - i. Provide a Real IO List to identify the input/output which will be replaced
 - ii. Provide PLC/RIO panel locations and cable routing methods for control signals.
 - iii. List of OC SAN 17000 specification sections required for this Project
13. Demolition Requirements Summary: This Project requires the removal and disposal of existing power and control cables, VFDs, and associated electrical equipment as part of system upgrades. Preliminary demolition plans will identify the limits of demolition, methods for safe removal, and disposal locations. O&M coordination will ensure utilities and systems remain operational during demolition.
14. Preliminary Design Drawings: Preliminary Design Drawings shall be compiled into separate volumes and organized by discipline. These drawings will support progressive development of the design and serve as a basis for early discussions

with stakeholders, cost estimating, permitting, and construction planning. Drawing submittals shall reflect the current design development stage and be updated throughout the PDB phases.

Drawing requirements by discipline are provided in Table 3-1 and below and should be included as applicable to the Project scope:

- a. General Drawings:
 - i. Cover sheet with location and vicinity maps
 - ii. Drawing index
 - iii. Abbreviations
 - iv. Legends and symbols
 - b. Demolition Drawings:
 - i. Preliminary demolition site plan showing structures, equipment, and utilities to be removed
 - ii. Annotated record drawings illustrating the extent of demolition, including depth and interface with remaining systems
 - c. Civil Drawings:
 - i. Overall site layout
 - ii. Horizontal control, paving, and grading at 1"=20' scale
 - iii. Electrical Duct Bank plans and profiles
 - d. Structural Drawings:
 - i. Ground and roof framing plans showing columns, beams, and openings
 - ii. Cross-sections and elevations to convey design intent
 - iii. Key details illustrating new connections and tie-ins to existing structures
 - e. Electrical drawings shall include the following:
 - i. Electrical Site Plan
 - ii. Single-line Diagrams
 - iii. Power Building, Electrical and Control Room Layouts
 - iv. Duct Bank section details
 - v. Schematic Diagrams
 - vi. Demolition Plans and Demolition Single-Line Diagrams
 - f. Instrumentation and Control Drawings: Instrumentation and control drawings shall include the following:
 - i. Process and Instrumentation Diagrams (P&IDs).
 - ii. Demolition Process and Instrumentation Diagrams
- D. Design-Builder shall furnish an electronic copy in a searchable and bookmarked PDF format of the draft PDR (and any other deliverables) to OC SAN. Account for a period of twenty (20) working days for OC SAN review of the draft PDR submittal. The Design-

Builder shall provide responses to the comments and conduct basis of design workshops with OC SAN to review proposed changes to documents based on the comments and responses.

- E. Design-Builder shall schedule and facilitate one review meeting with OC SAN to present and summarize PDR, present overview of initial cost estimate, and present overview of Project schedule. Design-Builder shall conduct a second meeting to address comments received from OC SAN. Design-Builder, design engineer and Subconsultants shall attend the review meeting.
- F. Revise the PDR (and any other deliverables) in response to OC SAN's comments, as appropriate, and furnish an electronic copy in PDF format of the revised (final) PDR (and any other deliverables) to OC SAN.
- G. OC SAN will notify the Design-Builder of its acceptance of the revised (final) PDR prior to Design-Builder proceeding with development of detailed design. The revised (final) PDR will serve as the basis for subsequent Phase 1 submittals.

Deliverables:

- 1. PDR workshop materials and handouts
- 2. Draft and final Design-Builder's PDR (in a bookmarked and searchable PDF format)
- 3. Meeting minutes from PDR review meeting with updated decision and action log
- 4. PDR cost estimate and schedule

Subtask 3.2- Procurement Plan

- A. As part of the PDR deliverable, the Design-Builder will develop a preliminary Procurement Plan.
- B. At a minimum, the procurement plan will incorporate the following:
 - 1. Introduction, background and purpose
 - 2. Planned work packages and estimated value
 - 3. Self-performed work and competitively subcontracted work
 - 4. Process for competitive proposals for bidding (consistent with Proposal submittals provided during procurement) as well as the process for open-book pricing for self-performed work
 - 5. Subcontractor prequalification process
 - 6. Subcontractor selection process
 - 7. Procurement plan for all subcontractors, vendors, and material suppliers (consistent with Proposal submittals provided during procurement).
 - 8. Handling of long lead items and coordination with the Project schedule
- C. The Design-Builder will submit the Procurement Plan to OC SAN for review and comment. The Design-Builder will prepare a revised Plan, addressing OC SAN's comments, for inclusion in its Contract Price Proposal Submittal Package.

Deliverables:

1. Draft and Final Procurement Plan

Subtask 3.3 – 60% Design Development

- A. Design-Builder shall develop and submit a 60% Design Submittal for OC SAN review and comment. The 60% Design Submittal shall include all documents, drawings and specifications. The 60% Design Submittal shall include all documents and items identified in Table 3-1. A 60% Design Submittal will be required for each GMP that the Design-Builder proposes as part of their approach to the Project.
- B. Construction Submittal Items List: Design-Builder shall develop the Construction Submittal Items List in accordance with Exhibit 18 – Master Construction Submittal List.
- C. The Design-Builder shall submit an updated procurement plan that incorporates OC SAN's comments on the draft procurement plan and discussions regarding procurement during the design development. Details on the scope and timing of the first GMP proposal shall be included in the updated procurement plan.
- D. The Design-Builder shall submit a draft startup and commissioning plan that identifies requirements for startup, commissioning and acceptance testing the Project. OC SAN will provide feedback on the draft plan for incorporation into the final plan. The Design-Builder will submit draft procedures for testing including equipment testing, systems testing and acceptance testing.
 1. The commissioning plan materials include the following:
 - a. Specification Section 01810, Commissioning
 - i. The Design-Builder shall provide edits to OC SAN's Specification 01810 – Commissioning
 - b. ORT Procedures
 - i. Design-Builder shall prepare ORT procedures using OC SAN's ORT procedure generator
 - c. Pre-FAT Procedures
 - i. Design-Builder shall prepare Pre-FAT procedures
 - d. FAT Procedures
 - i. Design-Builder shall prepare FAT procedures
 - e. RAT Procedures
 - i. Design-Builder shall prepare RAT procedures
 - f. PAT Procedures
 - i. Design-Builder shall prepare PAT procedures
- E. The Design-Builder shall submit a draft work restrictions including an outage restrictions table including all shutdown and energization activities in accordance with the

requirements of OC SAN Specifications Section 01140 work restrictions. OC SAN will provide feedback on the draft plan for incorporation into the final work restrictions.

- F. The Design-Builder shall provide all QA/QC review documentation, including signature pages documenting completed reviews, and if requested by OC SAN, reviewer comments and design team responses.
- G. The Design-Builder shall update the construction cost for Phase 2 to be used to establish GMP structure under the Pre-Construction Services and GMP Development Section (see Subtask 5.1). The cost estimate submittal shall represent an “open-book” (all information/documentation disclosed in an itemized manner) cost estimate detailing the direct and indirect cost components.
- H. The Design-Builder shall provide a draft CPM Schedule for Phase 2 of the Project, including construction, start-up, commissioning, and acceptance of the Project. OC SAN will review the draft CPM Schedule and submit comments to the Design-Builder for incorporation. The accepted CPM Schedule shall be submitted prior to acceptance of the Phase 2 GMP.
- I. OC SAN will review and provide comments on the submitted documents. The Design-Builder shall provide responses to the comments and conduct a workshop with OC SAN to review proposed changes to documents based on the comments and responses. Up to two (2) workshops may be required.
- J. The Design-Builder shall update the documents to reflect OC SAN’s comments and shall include the updated documents in the GMP proposal.

Deliverables:

- 1. Updated capital cost estimates for Phase 2 Construction (see Subtask 5.1)
- 2. Updated procurement plan at 60% Design
- 3. Updated sequence of construction plan
- 4. Draft Submittal Items List
- 5. Draft and final start-up and commissioning plan, including acceptance testing
- 6. Draft and final work restrictions
- 7. Draft CPM Schedule and final Accepted CPM Schedule for Phase 2 Construction Phase
- 8. Completed and checked calculations for all design disciplines
- 9. Drawings and specifications to show the design advanced to 60% completion
- 10. 60% Design development workshop agendas, materials and meeting minutes
- 11. Responses to OC SAN’s comments on the 60% Design submittal

Subtask 3.4 – GMP Design Deliverable

- A. The Design-Builder shall submit a complete set of the 60% design deliverables, inclusive of comments, responses, and edits from the 60% design review, that were used to develop the GMP. This deliverable will serve as the official record of the GMP design.

Subtask 3.5 – 100% Issue for Construction

- A. At the option of OC SAN, the Design-Builder may be authorized to continue with design work during evaluation and authorization of the GMP. This task is to allow the Design-Builder to advance the design to the 100% Design stage. This set will be reviewed to confirm it complies with the approved GMP.
- B. The 100% Design submittal shall include all documents, drawings, and specifications identified in Table 3-1.
- C. A 100% Design Submittal will be required for each GMP that the Design-Builder proposes as part of their approach to the Project.
- D. Once OC SAN reviews the 100% Design Submittal the Design-Builder shall issue a 100% Issue for Construction Set that will be used for construction and inspection of the work. There will be one 100% Issue for Construction set for each GMP that the Design-Builder proposes to develop as part of their Project approach.

Deliverables:

- 1. Updated sequence of construction plan
- 2. Updated start-up and commissioning plan, including acceptance testing
- 3. Updated work restrictions
- 4. Completed and checked calculations for all design disciplines.
- 5. Drawings and specifications to show the design advanced to 100% completion.
- 6. 100% Design development workshop agendas, materials and meeting minutes.
- 7. Responses to OC SAN's comments on the 100% Design submittal.
- 8. 100% Issue for Construction document addressing the 100% Design submittal.

TASK 4 – NOT USED

TASK 5 - PRE-CONSTRUCTION SERVICES AND GMP DEVELOPMENT

Subtask 5.1 - Cost Modeling and Estimates

- A. This subtask is for the efforts involved in developing the cost model and cost estimates throughout the duration of Phase 1.
- B. The Design-Builder shall use a cost model for the development and communication of the Project cost estimate. The cost model shall be further refined as greater detail

becomes available on the Project. Cost estimates will be progressively developed and refined, allowing OC SAN to modify priorities and requirements, if necessary, based on the overall budget.

Cost Model

- A. The Design-Builder shall develop the cost model in a transparent and open-book manner concurrent with design development to create an acceptable cost (including contingencies) to which the Design-Builder's proposed fee and other fixed allocations or allowances will be added. Open book is defined as detailed cost breakdown, including hours, quantities, materials costs, quotes, markups, etc.
- B. The cost model breakdown shall show costs organized by Project area, then section, then work element. The cost breakdown will include labor, material, quantities, equipment and subcontract costs for each item. All contingency and escalation factors will be identified. Scope related contingencies will be based on probabilistic assessment of risks and risk costs for the Project.
- C. The cost model will include both cost details, and a section for summary costs of major cost categories, markups, and contingencies. The proposed cost model breakdown will be presented by Design-Builder for comments and approval by OC SAN. The cost model will be used for the preparation of the Cost Estimate at each of the design milestone deliverables. The model will be regularly available to OC SAN in the interim between formal submittals.

Cost Estimate

- A. The Design-Builder shall develop and submit Project cost estimate updates regularly over the course of Phase 1, with the first submission provided as part of the PDR and then updated with each subsequent design milestone deliverable. A cost trending log shall be provided whenever there is a major design change or new information materially affecting Project costs.
- B. Cost estimate updates are to be provided on an iterative, progressive basis as design details are developed. The cost trending log will also be maintained on a biweekly basis to reflect substantive design changes to the preceding update. Incremental cost estimates between milestones may take the form of additions and deductions to the previous full estimate. All incremental updates should then be incorporated into the next full estimate.
- C. Design-Builder and OC SAN will meet and confer about each cost estimate submission, with Design- Builder identifying the evolution of the costs from the previous estimate (if any). The Design- Builder will revise the cost estimate submittals as needed in response to OC SAN's comments and incorporate responses into the subsequent cost estimate submittal.
- D. The cost estimates will be organized by Project area, then section, then work element and broken out into Construction Standards Institute divisions to facilitate transparency of the estimate. Each estimate will include a log of additive or deductive changes from the previous cost estimate submission, with a description of the basis for changes (e.g., design changes, updated quotes, revised contingencies, etc.). The 60% opinion of probable construction cost estimates will be broken down into commodity codes for the purpose of planning for OC SAN approval prior to submitting the GMP.

Guaranteed Maximum Price

- E. Once design has progressed to a degree acceptable to OC SAN, OC SAN will have the authority to direct the Design-Builder to submit a GMP Proposal. A GMP is expected for the Project at approximately the 60% level of design, although earlier or later GMPs for all or a portion of the Project will be considered by OC SAN as described in Subtask 5.3. Multiple GMPs at various levels of design completion, including those in support of early materials purchase or early start construction packages, may be developed by the Design-Builder for consideration by OC SAN.

Deliverables:

1. AACE Class 4 (-30%/+50%) OPCC at the PDR Design milestone
2. AACE Class 2 (-15%/+20%) OPCC at the 60% Design milestone
3. Cost Trending Log

Subtask 5.2- Scheduling and Construction Phasing

- A. The Design-Builder shall prepare a cost-loaded, resource assigned, Critical Path Method (CPM) Project Schedule using Primavera P6 for the duration of the Project. The CPM Schedule shall be consistent with the Design-Builder's Proposal and shall reflect all Project activities in accordance with the approved Work Breakdown Structure.
- B. The Design Bulder shall submit a Draft Baseline Schedule within 30 days of the Notice to Proceed. The Baseline Schedule shall provide detailed scheduling for all Phase 1 activities and high-level scheduling (i.e., major activities and milestones) for Phase 2.
- C. The Phase 1 schedule shall, at a minimum, include:
1. All workshops and significant meetings.
 2. Development, submission, and review timelines for all Phase 1 deliverables, including PDR, 60% and 100% Issue for Construction design submittals.
 3. Activities associated with investigation planning, field work, evaluations, and preparation of deliverables.
 4. Timeframes for OC SAN review periods, assumed to be twenty (20) working days for plans, reports, and memorandums, and twenty (20) working days for design submittals and GMP reviews (unless otherwise noted in Exhibit 29, draft schedule).
 5. Expected duration for GMP negotiations.
 6. Integration of additional schedules and scope changes throughout the Project.
- D. At the GMP Design Deliverable, the schedule shall be updated to include detailed scheduling for the remainder of the Project.
- E. Each activity within the Primavera P6 schedule shall include, at a minimum:
1. Structured Work Breakdown Structure (WBS)
 2. Activity ID aligned with type and work location
 3. Activity description quantifying limits of work
 4. Logical predecessors and successors

5. Activity duration (working or calendar days)
 6. Start and finish dates
 7. Percent complete
 8. Labor resource assignments (required for GMP submission)
 9. Activity cost (required for GMP submission)
 10. Graphical cost and earned value curves (early/late start and finish)
- F. The CPM Schedule shall include all necessary logic ties, constraints, and sequencing to accurately represent the Project scope. The initial schedule shall be presented at the Project kick-off meeting and updated monthly throughout the Project duration.
- G. Schedule updates shall be submitted monthly with the Design-Builder's progress report and at key milestones, including the PDR, 60% Design, and GMP submissions. Updates shall reflect:
1. Planned vs. actual start/finish dates
 2. Activity durations and dependencies
 3. Major milestones
 4. Percent complete
 5. Remaining effort
 6. Actual costs to date and forecasted costs
 7. Earned value analysis
 8. A 30-day look-ahead schedule
 9. Revision tracking via sequential update numbers
- H. Schedule updates shall also be submitted following any significant Project changes that impact activities, durations, logic, or key completion dates

Deliverables:

2. Draft and Final Baseline Schedule
3. Schedule updates at each major milestone (PDR, 60% Design, GMP) and upon significant Project changes

Subtask 5.3- Guaranteed Maximum Price Submittal and Phase 2 Amendment

- A. Upon OC SAN's request, the Design-Builder shall conduct all work necessary to develop, revise, and negotiate its proposed GMP (Proposal in accordance with the requirements of the Progressive Design-Build Contract). A GMP is expected for the Project after the 60% Design submittal. The Design-Builder shall utilize an "open book" approach to develop the GMP Proposal, providing OC SAN with full access to the financial basis for the proposed GMP. (Note: Any Key Firms identified in the submitted Proposal are likewise required to develop costs on an open book basis). These efforts are designed to prepare the documents and estimates as accurately as possible and to keep OC SAN fully informed and involved with the design and cost throughout the development of the GMP Proposal.

- B. The Design-Builder will use the approved cost model for developing cost estimates and produce a GMP proposal for OC SAN's review and subsequent approval. The Design-Builder will develop the GMP through a combination of cost estimates for self-performed construction, general conditions, final design, and engineering services during construction, and smaller construction items, and targeted subcontractor and/or vendor bidding in a transparent and open-book manner congruent with design development to create an acceptable cost (including contingencies) to which the Design-Builder's proposed fee and other fixed allocations or allowances will be added for a complete GMP Proposal. Design-Builder contingency included as part of the GMP will be supported by an updated cost and schedule loaded Risk Register. In addition to other Risk Register requirements in this Scope of Work the Risk Register shall have at a minimum:
1. ID number for the risk
 2. Risk Originator (entity who originated the risk entry)
 3. Title for the risk
 4. Description of the risk
 5. Risk Area (i.e., Prime Contract, Constructability, Cost Management, Schedule Management)
 6. Risk Status (i.e. Open / Closed)
 7. Risk Owner (i.e., OC San, Design-Builder)
 8. Estimated Value of Unmitigated Risk
 9. Probability of Occurrence
 10. Probability of Impact
 11. Potential Risk Impact (cost and schedule)
 12. Risk Mitigation
 13. Pricing Strategy (will it be managed via DB Contingency, Allowance, or Owner Contingency)
- C. While OC SAN anticipates that the GMP Proposal will be requested at approximately the 60% Design stage, the Design-Builder may propose multiple GMPs at an earlier or later stage of design.
- D. The GMP Proposal shall meet the requirements set forth herein and, in the Progressive Design-Build Contract.
- E. The GMP Proposal shall (at a minimum) include the items specified below. In the event that an earlier or later Guaranteed Price Proposal is requested, the list below may be modified through negotiation between OC SAN and the Design-Builder. OC SAN reserves the right to request additional documents or information prior to accepting a GMP Proposal.
- F. Anticipated Requirements for GMP Proposal:
1. Revised 60% Design documents including, but not limited to, plans and specifications and submittals addressing OC SAN comments and any other drawings or specifications necessary to define the baseline design for the GMP Amendment.

2. Proof of all permits and approvals that the Design-Builder was responsible for obtaining during Phase 1, as identified in the Progressive Design-Build Contract.
3. Identification of construction permits and approvals to be obtained by the Design-Builder during Phase 2.
4. Finalized Design criteria package including performance criteria as jointly developed by Design-Builder and OC SAN.
5. Proposed Design Build Schedule including an accompanying narrative describing key assumptions in the proposed Baseline Design Build Schedule upon which the Base GMP is based on including dates for substantial completion and final completion.
6. Descriptive information on engineering, procurement, materials, construction labor and equipment, design gap narratives, and other services necessary to perform the Design Build work as required under the Progressive Design-Build Contract.
7. The proposed direct cost of work, as defined in the Progressive Design-Build Contract, including contingency, will serve as the basis to which the Design-Builder's proposed fee and any other fixed allocations or allowances will be added to establish a mutually agreed-upon GMP. Cost of Work for Phase 2 Services shall include all services required for construction of the Project through final completion, using the approved cost model. Supporting documentation for the proposed cost of work of Phase 2 Services shall include, at a minimum:
 - a. Subcontractor and materials vendor bids and quotations.
 - b. Details supporting estimates for self-performed construction work (labor, materials and equipment).
 - c. Expense rates such as mileage charges, per diem for meals and lodging, and personnel vehicle rentals.
 - d. Unburdened rental rates on construction equipment, trailers, storage and staging space and major tools.
 - e. Allowances (where appropriate).
 - f. Labor and expense costs for Engineering construction support consistent with the Phase 2 professional services billing rates included in the Progressive Design-Build Contract.
 - g. Details for any other relevant labor, expense, or other costs.
8. Design-Builder contingency based on probabilistic assessment of risks and cost consequences if realized, weighted for probability of occurring.
9. Details to support the implementation of a GMP delivery of the Project, including the Design-Builder's fee and any shared savings provisions. Any details which differ from those executed in the Progressive Design-Build Contract should be well-supported and are subject to OC SAN approval.
10. Details to support the possible implementation of a lump sum delivery of the Project, including a lump sum discount on the Design-Builder's fees. Any details which differ from those submitted in the Proposal should be well-supported and are subject to OC SAN's approval.

11. All other proposed guaranteed price pricing assumptions and clarifications on terms and conditions used not covered in the preceding items in this section.
 12. A list of work activities, expenses and fees not included in the guaranteed price which OC SAN may be expected to pay for.
- G. After delivery of the initial draft GMP Proposal, the Design-Builder will conduct a workshop to present, review, and answer questions about the content of the guaranteed price proposal. The Design-Builder will continue to revise the guaranteed price proposal as needed and conduct additional workshops and meetings as needed to obtain OC SAN approval.
 - H. Upon acceptance of the GMP Proposal, all documents upon which the guaranteed price proposal is based shall be considered contract documents and shall serve as the basis for the remaining design work and construction.
 - I. OC SAN shall have the sole authority to determine whether the Project will be completed with the use of a GMP or a Lump Sum as the basis for payment.
 - J. After OC SAN acceptance of a proposed guaranteed price, the Design-Builder and OC SAN shall negotiate and finalize a GMP Amendment in accordance with the requirements of the Progressive Design-Build Contract.

Deliverables:

1. A GMP Proposal assumed to be delivered following the 60% Design Milestone as well as an Early GMP deliverable.

ARTICLE 2 - GENERAL REQUIREMENTS

Design-Builder shall refer to and adhere to the requirements of OC SAN Safety Standards, **Exhibit 17 - OC SAN Engineering Design Guidelines and Standards**, any deviations to the Engineering Design Guidelines listed below, and other OC SAN's Design Standards referenced therein.

2. GENERAL

- A. The **Engineering Design Guidelines** define what design concepts/tools/methods and project management requirements shall be adhered to and in what manner they shall be used/provided by Design-Builder, e.g., requirements regarding design concepts, submittals, documentation details, use of **OC SAN Master Specifications**, and other related **OC SAN Standards**, etc.
- B. OC SAN periodically updates documents such as OC SAN Safety Standards, OC SAN Engineering Design Guidelines (inclusive of all attachments) and other OC SAN Design Standards. The Design-Builder shall follow subsequent revisions up to transmittal by OC SAN of comments on the PDR, and revisions up to this point in time shall be incorporated into the Design by Design-Builder with no increase in Design-Builder's Phase 1 fee.
- C. The Design-Builder shall not begin editing the project specifications until the project team meets with OC SAN's Design Standards Custodian to discuss and receive comments regarding the Design-Builder's proposed list of project specifications. This meeting will be used to determine which specifications are to use OC SAN's master

specifications, and where other sources will be utilized. The Design-Builder shall follow subsequent revisions up to transmittal by OC SAN of comments on the PDR, and revisions up to this point in time shall be incorporated into the Design by Design-Builder with no increase in Design-Builder's Phase 1 fee.

2.1. PROJECT PHASES AND TASKS

- A. Project tasks and deliverables shall include the requirements described in this Scope of Work.

2.2. CONSTRUCTION SEQUENCING AND CONSTRAINTS

- A. Design-Builder shall develop with OC SAN staff, and include in the Construction Documents, detailed requirements for construction sequencing and constraints. These shall ensure safe and reliable operation and maintenance of OC SAN facilities. The facilities must be kept on-line and fully operational with minimal interruptions throughout construction.

2.3. WORKING HOURS

- A. Meetings with OC SAN staff shall be scheduled from Monday through Thursday between the hours of 8:00 AM and 4:00 PM. Any Design-Builder staff working on-site shall conform to OC SAN work schedules and holidays.

2.4. STANDARD DRAWINGS AND TYPICAL DETAILS

- A. All the details used in the project (OC SAN's Standard Drawings and Design-Builder -developed typical details) shall be shown on the Plans.

2.5. SOFTWARE

- A. The Design-Builder is expected to develop and provide the deliverables using the standard software currently approved for use by OC SAN. The standard OC SAN software includes, but is not limited to, the following:
 - 1. Windows Professional
 - 2. Esri software (fGDB, pGDB or shapefile formats)
 - 3. Microsoft Internet Explorer
 - 4. AutoCAD Plant 3D (for P&ID drawings only)
 - 5. Autodesk software (AutoCAD, AutoCAD Map3D or compatible dwg file format)
 - 6. Microsoft Office
 - 7. Maximo
 - 8. Bluebeam Revu eXtreme
 - 9. Primavera P6 for scheduling
 - 10. Innovyze ICM Hydraulic Model
 - 11. Database software as defined elsewhere in the project Scope of Work
 - 12. Windows Professional
 - 13. Esri software (fGDB, pGDB or shapefile formats)
 - 14. Microsoft Internet Explorer

15. AutoCAD Plant 3D (for P&ID drawings only)
 16. Autodesk software (AutoCAD, AutoCAD Map3D or compatible dwg file format)
 17. Microsoft Office
 18. Maximo
 19. Bluebeam Revu eXtreme
 20. Primavera P6 for scheduling
 21. Innovyze ICM Hydraulic Model
 22. Database software as defined elsewhere in the project Scope of Work
- B. Any software that the Design-Builder needs to comply with these standards shall be purchased and maintained by the Design-Builder at no additional cost to OC SAN.
- C. In the event OC SAN provides the Design-Builder with access to OC SAN software and hardware at an OC SAN facility in order to facilitate performance of their work, all software shall remain the property of OC SAN. Only software licensed to OC SAN shall be installed on OC SAN equipment. In addition, only OC SAN IT Department staff will perform the installation of this software.
- D. Refer to Chapters 10 and 11 and Appendix A of OC SAN Engineering Design Guidelines for requirements on preparation of Criticality Tables and ETAP, SAT, and EID databases.
- E. Refer to Chapter 11 and Appendix A of OC SAN Engineering Design Guidelines for requirements regarding P&ID drawings.

2.6. SUBMITTAL REVIEW USING BLUEBEAM

- A. OC SAN has standardized on the use of Bluebeam Revu for reviewing and providing comments to PDF files. PDF files will be hosted in a Bluebeam cloud-based studio session for review. See **Exhibit 15 – Bluebeam Designer User Training** for a detailed explanation on how Bluebeam will be used to provide, validate, and close submittal review comments.
1. Prior to submitting electronic PDF files, format them as indicated in **Exhibit 14 – Bluebeam Designer Training for Submission** and “**OC SAN CAD Standards Manual**” prior to submission.
 2. A one-hour training session on the use of Bluebeam and custom status menu will be provided by OC SAN. All Design-Builder team members responsible for quality control and reconciliation of submittal comments shall attend.

3. STAFF ASSISTANCE

OC SAN staff member or designee assigned to work with Design-Builder on the design of this project is **Omeed Pour** at (714) 593-7226, e-mail to: OPour@ocsan.gov.

4. EXHIBITS

Exhibit 1 – NOT USED

Exhibit 2 – NOT USED

Exhibit 3 – NOT USED
Exhibit 4 – NOT USED
Exhibit 5 – NOT USED
Exhibit 6 – Quality Control Requirements
Exhibit 7 – NOT USED
Exhibit 8 – NOT USED
Exhibit 9 – NOT USED
Exhibit 10 – NOT USED
Exhibit 11 – Sample Full Project Safety Review Plan
Exhibit 12 – Sample Risk Management Check List
Exhibit 13 – NOT USED
Exhibit 14 – Bluebeam Designer Training for Submission
Exhibit 15 – Bluebeam Designer User Training
Exhibit 16 – NOT USED
Exhibit 17 – OC SAN Engineering Design Guidelines and Standards – Available online at:
<https://www.ocsan.gov/document-center/>
Exhibit 18 – Project Control Management System
Exhibit 19 – Project Reference Material

- **P2-66 Record Drawings**
- **P2-66 Cable and Conduit Schedule**
- **P2-66 Cable and Conduit Schedule (Excel)**
- **P2-122 Record Drawings**
- **Baseline Single Line Diagrams**
- **MP-509 P2 Headworks Low Voltage Cable Assessment**
- **FR2-0024 Headworks 480V Cable Replacement at Plant No. 2**
- **FR2-0026R Headworks Phase 3 Cable Replacement at Plant No. 2**

Exhibit 20 – NOT USED
Exhibit 21 – NOT USED
Exhibit 22 – ORT Procedure Examples
Exhibit 23 – Pre-FAT Procedure Examples
Exhibit 24 – Sample FAT Procedure
Exhibit 25 – NOT USED
Exhibit 26 – NOT USED
Exhibit 27 – NOT USED
Exhibit 28 – Cable Conduit and Tray Schedule Examples
Exhibit 29 – Design-Builder's draft schedule
Exhibit 30 – MSP Vibration Monitoring System Modernization at Plant No. 2 – Scope of Work

EXHIBIT 6

QUALITY CONTROL REQUIREMENTS

EXHIBIT 6 – QUALITY CONTROL

1.0 PDR QUALITY CONTROL

1.0.1 QUALITY CONTROL

A. The following Quality Control requirements apply both to Phase 2 – Preliminary Design and Phase 3 - Design. Quality control activities during Design should be budgeted for and charged to the Phase 3 quality control budget.

B. Submittals that contain gross deficiencies or errors requiring a significant amount of OC SAN staff time for checking will be returned without review until OC SAN is satisfied that a thorough DESIGN-BUILDER's review, checking and correction for coherence, consistency, spelling, etc. has been performed.

C. Quality Control Requirements

1. The DESIGN-BUILDER shall develop a Quality Assurance/Quality Control (QA/QC) Plan for implementation of the Scope of Work. The DESIGN-BUILDER's QA/QC Plan shall be reviewed and approved by OC SAN Project Manager and shall include or reference all the controls necessary for implementation. As a minimum, the QA/QC Plan shall include the following:

- a. Purpose and objective
- b. QA/QC Team – Roles and Responsibilities
- c. Independent Quality Control (IQC) Team – Roles and Responsibilities
- d. The In-house Quality Process
- e. QC coordination with OC SAN
- f. Preliminary Design Report QC process
- g. Design submittal QC process
- h. Final design documents QC process

2. QA/QC documentation shall include, but not be limited to, the following:

- a. Design Guidelines
- b. Calculation Log
- c. IQC Comment Log: Use of Bluebeam is preferred.
- d. Discipline Drawing IQC Checklists
- e. QC Validation Forms

3. A detailed description of the QA/QC Plan requirements is included in the Engineering Design Guidelines, Chapter 01, Design Guidelines – General Requirements, and as revised in Section V of this Scope of Work, "Project-Specific Deviations from OC SAN Design Guidelines". Major elements of the QA/QC Plan shall include the following:

- a. DESIGN-BUILDER shall be responsible for the technical adequacy and quality control of his work.
- b. DESIGN-BUILDER controls shall assure that planning and design inputs are correctly translated into planning and design documents such as drawings, procedures, specifications, reports, and calculations.
- c. DESIGN-BUILDER shall be responsible for the physical control, security, and distribution of controlled documents required for performance of the Scope of Work.

d. DESIGN-BUILDER's planning and design activities shall be controlled through the review workshop process, including discipline checks, inter-discipline cross-checks, and multidiscipline review workshops by an Independent Project Review Team.

D. PDR Quality Control

1. Prior to the submittal to OC SAN, each Evaluation Memo, Design Memo, drawing and calculation shall be thoroughly reviewed and corrected by a member of the QC Team.

E. Final Design Quality Control

1. Prior to the submittal to OC SAN, Design Submittal identified in the Scope of Work shall be thoroughly reviewed and corrected by a member of the QC Team.

2. Discipline Internal Check

a. DESIGN-BUILDER shall perform discipline check and review all drawings, specifications, studies, reports, calculations, and any other deliverable required by the Scope of Work. These requirements shall be implemented by those Project Team members responsible for the specific planning or design activity. Documentary evidence of such checking shall be provided to OC SAN with each project submittal.

3. Discipline Integrity Check

a. Immediately prior to the submittal of 60% design submittal, the DESIGN-BUILDER shall perform a drawing integrity check (plan check) for all disciplines. Each discipline shall provide an affidavit attesting to the details of the review, listing drawings and specification sections reviewed. The 60% design submittal shall also have a coordination check between the P&IDs and Mechanical Drawings. The mechanical lead engineer shall attest to the accuracy of each P&ID and the respective mechanical drawings.

4. Interdiscipline Coordination Check

a. DESIGN-BUILDER shall perform an inter-discipline coordination cross-check immediately before each design submittal to correct discrepancies among the process and demolition plans; mechanical, structural, electrical, and instrumentation and controls drawings, and databases. Within each submittal, all documents shall have inter-discipline coordination checked and shall be in agreement with each other. Documentary evidence of such checking shall be provided to OC SAN with each project submittal. DESIGN-BUILDER shall refer to Engineering Design Guidelines, Chapter 01, Design Guidelines, General Requirements, and Phase 2 – Preliminary Design and Phase 3 – Design in this Scope or Work for additional requirements.

5. Independent Multi-Discipline Design Review

a. DESIGN-BUILDER shall identify an Independent Quality Control (IQC) Team consisting of qualified individuals not directly involved in the design or supervision of the work. This Team shall conduct a multi-discipline design review (check and inter-discipline cross-check) immediately before submittal of the 100% design submittal to check discipline accuracy, provide coordination, and eliminate conflicts. OC SAN project Team shall be invited and may attend all or a portion of the review process.

b. IQC Workshop

(1) The IQC Team shall have completed their independent review of their discipline prior to the 100% design submittal IQC workshop. At the workshop, the IQC Team shall continue with the interdisciplinary review and cross-checking, comment generation and discussion. The comments resulting from the IQC Team review shall be documented in real time during the review process and will be reviewed by the entire IQC Team in the beginning of each subsequent day of the workshop. In terms of participation, these morning review sessions will be the most beneficial time for OC SAN Staff to be in attendance. The DESIGN-BUILDER shall provide an open forum to OC SAN to allow observation by OC

SAN Staff and a transparent QC process. The finalized IQC logs generated during the workshop will be incorporated into the QC documentation for the project and DESIGN-BUILDER shall track resolution of these comments using the comment log.

- (2) Each drawing shall have its own IQC checklist or drawing markup that shall be maintained throughout the workshop. These pre-prepared IQC checklists and drawing markups shall be used in addition to the IQC logs. Each discipline lead shall sign off on each drawing checklist or drawing markup to certify that the drawing was properly checked and cross-checked.
- (3) At the end of the IQC workshop, the IQC Team shall meet with DESIGN-BUILDER's QC Manager to provide insights and feedback. OC SAN shall be invited to the meeting.
- (4) After the 100% design submittal IQC workshop, the design team shall provide responses to the IQC review comments. The IQC Team shall validate the responses to the comments prior to the 100% design submittal.

F. Review Documentation

1. The reviewer shall attest to their review in the form of a written affidavit outlining the submittal subject and identifying the corrected deficiencies.
2. Documentation that all reviews were performed and all comments resolved, incorporated and back checked shall be recorded on a QC Validation Affidavit and submitted to OC SAN for acceptance when the Design Submittal is delivered.
3. All submittals shall be accompanied by a transmittal letter signed by DESIGN-BUILDER's principal-in-charge or Project Manager, if appropriate, indicating that the submitted documents have been checked, and identifying the reviewer's name. Signatures of the respective checkers shall be included where appropriate. All submittals shall be checked with a goal of insuring accuracy and consistency.

G. Documentation of Level of Effort for QA/QC

1. DESIGN-BUILDER shall include man-hours for all QA/QC activities associated with preliminary design, including the development of the QA/QC Plan, and final design, including review of Bid Documents either by DESIGN-BUILDER, or by the DESIGN-BUILDER in conjunction with OC SAN staff in meetings and workshops.

H. Quality Control Audits

1. On a periodic basis, OC SAN will conduct an audit of DESIGN-BUILDER's work to ensure conformance with the QA/QC Plan. OC SAN shall notify DESIGN-BUILDER when these audits will occur. DESIGN-BUILDER shall respond to any OC SAN comments made during the audit within two weeks. If comments are extensive, OC SAN will schedule a follow-up audit approximately 60 days after the comments are received.
2. Acceptance of DESIGN-BUILDER professional services shall be based on the result of audits conducted on the elements of the approved QA/QC Plan and the incorporation or resolution of comments resulting from these audits.
3. OC SAN may also make periodic visits to the DESIGN-BUILDER's offices to review the progress of the technical work. These visits may include talking to DESIGN-BUILDER's personnel, reviewing drawings (both hardcopy and electronic), discussing QA/QC techniques that will be employed by OC SAN in reviewing I/C drawings and assisting DESIGN-BUILDER's staff with understanding I/C requirements for such project elements as P&ID's.

EXHIBIT 11

SAMPLE FULL PROJECT SAFETY REVIEW PLAN

PROJECT SAFETY CHECKLIST

OC San Project Name	Date
OC San Project #	

Item #	Description (see Exhibit 12 for Full Safety Review Plan details)	Yes	No	NA
1	Control of Hazardous Energy – lockout/tagout and preventative maintenance requirements?			
2	Personal Protective Equipment – Are there change or modification to existing PPE requirements?			
3	Fire Protection – Will fire protection systems be installed?			
4	Lifting/Mobile Equipment – Will forklifts, scissor lifts, boom lifts, cranes, and hoists be required when the project is completed?			
5	Mechanical Equipment – will any mechanical equipment be installed or modified?			
6	Fall Hazards – Are there any elevated working levels being installed or modified?			
7	Confined Spaces – will any confined spaces be introduced or modified?			
8	Ergonomics – will any ergonomic hazards be introduced by this project? Will this project require operators to push buttons or turn knobs?			
9	Physical Hazards – will this project introduce any physical hazards?			
10	Hazardous Materials – Are any new chemicals required?			
11	Ventilation – Are ventilation systems to control employee exposures to atmospheric hazards being installed or modified?			
12	Noise – Will equipment, rooms, or areas have noise greater than or equal to 82.1 dBA?			
13	Radiation – Will radiation sources be installed or modified?			
14	Lasers – Will lasers be installed or modified?			
15	High Hazard Chemicals – will this project have any chemicals that would trigger Cal/OSHA Process Safety Management (PSM) requirements?			
16	Hazardous Waste – Are hazardous wastes anticipated as a result of the project?			
17	Aboveground/Underground Storage Tanks/Containers – Will aboveground or underground chemical tanks, or chemical containers be installed or modified?			
18	Spill Control – when this project is completed will there be more than 5 gallons of stored hazardous material/waste at the location?			
19	Electrical Hazards – New or modified electrical equipment?			
20	Pressure Hazards – New or modified pressure hazards, including pneumatic, hydraulic, steam, air, or pressure vessels?			
21	Vacuum Hazards – when this project is completed will there be a vacuum generated by the project?			
22	Chemical Hazards – are chemical proposed, including those in a laboratory setting?			
23	Temperature Hazards – New cryogenic liquids or hot surfaces/liquids?			

PROJECT SAFETY CHECKLIST

Reviewers

Name	Company

EXHIBIT 12

SAMPLE RISK MANAGEMENT CHECK LIST

FULL PROJECT SAFETY REVIEW PLAN

Project #:	Project Name:	Date:						
ITEM NO.	PROJECT REVIEW ITEM	YES*	NO*	N/A	ACTIONS, DECISIONS, COMMENTS	DATE REQ'D	STATUS (OPEN/COMP/ETC.)	RESP PARTY (SPA)
1	CONTROL OF HAZARDOUS ENERGY							
1.1	Does exposure to potentially hazardous energy exist during maintenance of this equipment, machine, or process?							
1.2	Are all lockout points identified and labeled (i.e., electrical disconnects shutoff valves)?							
1.3	Do Authorized Employees require training on the new equipment?							
1.4	Are adequate isolation points provided based on preventative maintenance needs?							
1.5	Are preventative maintenance schedules established where needed?							
1.6	Are gas, chemical, and flammable material systems designed for double block and bleed, spool removal, blind isolations?							
2	PERSONAL PROTECTIVE EQUIPMENT							
2.1	Has a PPE hazard assessment been completed?							
2.2	Is respiratory protection required?							
2.3	Is hearing protection required?							
2.4	Is goggles, face shields, or special tinted lenses required?							
2.5	Is any other specialty PPE required for operation or maintenance of equipment?							

* Depending on nature of item, a checked box may identify the need for corrective action.

FULL PROJECT SAFETY REVIEW PLAN

2.6	Are PPE signs/labels installed at the equipment?							
2.7	Is fall arrest/restraint or ladder fall arrest systems required?							
3	FIRE PROTECTION							
3.1	Has the fire department reviewed plans and specs and provided approval?							
3.2	Is the fixed extinguishing system (sprinkler, CO2, dry chemical, etc.) appropriate for the hazard?							
3.3	Are procedures to alert others in the area and activate a fire emergency response known?							
3.4	Is fire detection adequate?							
3.5	Is the fire alarm audible?							
3.6	Are sufficient fire extinguishers nearby and of the proper type?							
3.7	Are fire extinguisher markers/labels provided above the fire extinguisher?							
3.8	Are two emergency routes required?							
3.9	Is there proper access for firefighting equipment?							
3.10	Did this project result in an increase or change in the occupancy of the room or structure, storage of flammables beyond those previously anticipated for the area, additions of or modifications to combustion equipment, new roof or wall openings?							
4	LIFTING / MOBILE EQUIPMENT							
4.1	Is there adequate maneuvering room for forklifts, scissor lifts, boom lifts, cranes, and other hoisting equipment?							

* Depending on nature of item, a checked box may identify the need for corrective action.

FULL PROJECT SAFETY REVIEW PLAN

4.2	Is there adequate clearance over the top of the equipment to remove the equipment for maintenance?							
4.3	Does operating the equipment indoors pose an inhalation/asphyxiation hazard?							
4.4	Does removal of hatches/skylights, etc. pose a fall hazard?							
4.5	Are preventative maintenance frequencies provided for cranes and hoists?							
4.6	Are capacities of the cranes and hoists identified?							
4.7	Are state certifications/permits required and obtained for cranes/hoists?							
5	MECHANICAL EQUIPMENT							
5.1	Is there safe access to equipment for operation and maintenance?							
5.2	Are automatic shutdown devices (e.g., emergency stops) accessible and sufficient to protect personnel and equipment?							
5.3	Are remotely operated shut-off valves and switches available and conspicuously labeled for emergency shutdown during evacuation?							
5.4	Are warning labels present where safe usage requires observance of precautions not obvious to user?							
5.5	Are barricades or shields installed to prevent injury and protect equipment?							
5.6	Are tools in good condition?		☐					
5.6	Are special tools required?							
5.7	Is floor load rating adequate?							
5.8	Is the unit mechanically stable and secured?							

* Depending on nature of item, a checked box may identify the need for corrective action.

FULL PROJECT SAFETY REVIEW PLAN

5.9	Are shutdown interlocks and/or mechanical stops provided when necessary?							
5.10	Have operating mechanisms been designed to fail safe?							
5.11	Are controls such as tools, two hand controls, or light curtains used?							
5.12	Have high-speed rotating parts been checked for balance?							
5.13	Are exposed moving parts guarded; i.e., rotating shafts, drive belts, flywheels, and other mechanical power transmission apparatus?							
5.14	Are pipes properly labeled and color coded?							
6	FALL HAZARDS							
6.1	Are platforms, ramps, and other elevated locations 30 inches or more in height protected by a guardrail? Guardrail shall comply with 8 CCR 3209 & OC San specs.							
6.2	Are all floor openings protected by standard cover or guardrails? Floor opening is anything greater than 2 inches in least dimension.							
6.3	Are skylight screens or covers provided that are capable of withstanding 400 pounds minimum? Some may required vehicle ratings.							
6.4	Are ladders designed with swing gates, cages, and other safety systems where required by code or spec?							

* Depending on nature of item, a checked box may identify the need for corrective action.

FULL PROJECT SAFETY REVIEW PLAN

6.5	Does work involve exposure to heights 4 ft or more or lower heights where hazardous circumstances such as open vessels, machinery, moving equipment, water, or objects are present which impose implement hazard?							
6.6	Are certified or non-certified anchor points installed? Are the anchor points labeled?							
7.0	CONFINED SPACES							
7.1	Have confined spaces been evaluated for permit or non-permit required entry?							
7.2	Are confined spaces labeled?							
7.3	Are confined space entry points secured to prevent unauthorized entry point?							
7.4	Can maintenance or contractor perform rescue with vertical non-entry rescue?							
7.5	Are davit bases installed for maintenance or contractor to use? Does the location of the davit base align with entry points? Does davit operate in proximity to nearby equipment/guardrails?							
8	ERGONOMICS							
8.1	Is the operator required to lift, lower, carry, push, or pull any materials or equipment as part of the normal job(s) including unjamming operations?							
8.2	Are any awkward, bent over, overhead, twisted, or back, neck, arm, or leg postures required as part of the normal job(s) including unjamming operations (includes legroom in seated tasks)?							

* Depending on nature of item, a checked box may identify the need for corrective action.

FULL PROJECT SAFETY REVIEW PLAN

8.3	Have suitable material handling devices been provided to eliminate necessary lifting of materials or product?							
8.4	Has suitable support for the operator position been specified (includes sit-stand stools, chairs, lean bars, matting, foot rails, footrests as required)?							
8.5	Is the operator required to push in any buttons or maintain firm grip on controls for more than 10 seconds at a time?							
8.6	Are valves positioned adequately for operation, designed for automatic activation, or with chain fall?							
8.7	Are the control or push buttons on panels and pendants of a light touch design (infrared, beam, or membrane design)?							
8.8	Are control knobs and levers at least one inch in diameter to allow a firm grip?							
8.9	Are all controls placed within 24 inches of the chest of the operator (within a neutral arm posture reach)?							
8.10	Are control screens and displays placed so the operator can maintain a neutral head/neck posture while monitoring process-critical measurements (less than 15 degrees forward or twisted or 10 degrees back, with minimal static posture)							
8.11	Have controls been designed to operate logically during use, to minimize confusion and human error?							
8.12	Have controls and panels been laid out graphically, labeled, and placed in logical groups by area of machine, to minimize confusion and human error?							
9	PHYSICAL HAZARDS							
9.1	Will the operator contact any vibrating surfaces, tools, controls, or equipment?							
9.2	Has the vibration exposure been measured and appropriate isolation or damping been designed in?							

* Depending on nature of item, a checked box may identify the need for corrective action.

FULL PROJECT SAFETY REVIEW PLAN

9.3	Are all equipment surfaces less than 50 degrees F or more than 120 degrees F shielded from direct operator contact?							
9.4	Will hand tools be required to perform this job or task?							
9.5	Have the hand tools been specified to include ergonomic features (1.5 inch diameter, cushioned friction grip, length to fit the whole hand, balanced, adequate to the task)?							
9.6	Have powered tools been specified to eliminate manual work to the greatest extent possible?							
9.7	Do the specified power tools have the correct handle orientation for the task(s) (pistol vs inline grip)?							
9.8	Are the handheld power tools over 1 lb of balanced (weight near the handle) and suspended using a balancer?							
9.9	Do valves require excessive force to open or close? Greater than 50 lb of force.							
10	HAZARDOUS MATERIALS							
10.1	Are hazardous materials going to be used in this process?							
10.2	Has the safety data sheet (SDS) been provided to Risk Management for retention?							
10.3	Can less hazardous materials be substituted?							
10.4	Does the chemical pose a dermal, inhalation, injection, ingestion, or absorption hazard to employees?							
10.5	Does this material have the ability to become airborne during the process or intended use? (Machining, granulating, cutting, drilling analysis)							

* Depending on nature of item, a checked box may identify the need for corrective action.

FULL PROJECT SAFETY REVIEW PLAN

10.6	Are adequate engineering controls employed to reduce hazard below the permissible exposure limit?							
10.7	Are hazard warnings and labels provided in the work area where hazardous materials will be used?							
10.8	Does OC San's hazardous materials business plan need to be updated?							
10.9	Is spill containment required?							
10.10	Does this project include disturbance of asbestos or lead?							
10.11	Are emergency safety showers & eye wash stations provided as required by ANSI Z358.1 standard.							
10.12	Are there atmospheric alarm devices for location where there is a potential for hazardous atmosphere, which includes warning lights?							
10.13	Are chemical or material pipes properly color coded and labeled?							
11	VENTILATION							
11.1	Is the ventilation system adequate to control or eliminate the atmospheric hazard?							
11.2	Is the ventilation system designed in accordance with ASHRAE, ANSI, NFPA, and/or Cal OSHA?							
11.3	Are systems in place to be able to monitor or measure flow to verify adequacy?							
11.4	Is exhaust air going to be re-circulated? If yes, are filters and other controls included?							
11.5	Is entry warning systems required to notify entrant that ventilation is not functioning?							
11.6	Does the ventilation allow for annual performance monitoring (flow check)?							

* Depending on nature of item, a checked box may identify the need for corrective action.

FULL PROJECT SAFETY REVIEW PLAN

12	NOISE							
12.1	Are there potential noise sources (>82.1 dBA) been identified (e.g., fans, blowers, burners, pumps, air, motors)?							
12.2	Are engineering controls installed to lower noise levels (i.e., enclosures, blanketing, acoustical wall paneling, and other sound absorption technologies)?							
12.4	Is hearing protection required signs installed at entrances to areas greater than 82.1 decibels? Are ear plug dispensers available?							
12.5	Are there potential noise sources greater than 102 decibels? If yes, are areas provided with double hearing protection required signs?							
13	RADIATION							
13.1	Is the project installing new sources of ionizing radiation (X-ray equipment, nuclear gauges, etc.)?							
13.2	Has equipment or process without radiation exposure been evaluated?							
13.3	Are appropriate radiation signs posted and labels affixed to devices?							
13.4	Have operators of radiation producing equipment been trained in radiation safety?							
13.5	Have licenses/permits been received from the state? Have copies been provided to Risk Management?							
13.6	Have ALARA principles been determined and exposures calculated based on distance, shielding, time, etc.?							
13.7	Are other physical hazards present (radiant heat, abnormal temperature and humidity, high intensity light, ultraviolet radiation, radio frequency radiation, etc.)?							
14	LASERS							
14.1	Have laser sources (all classes) been registered?							

* Depending on nature of item, a checked box may identify the need for corrective action.

FULL PROJECT SAFETY REVIEW PLAN

14.2	Are appropriate laser signs posted and labels affixed to devices?							
14.3	Has laser eye protection or other controls been identified?							
14.4	Is training required and defined?							
14.5	Is a PM defined for the laser?							
15	HIGH HAZARD CHEMICALS							
15.1	Do any chemicals used in this process appear on the Cal OSHA list of process safety chemicals in quantities exceeding the minimum threshold quantity?							
15.2	Are flammable liquids used in this process?							
15.3	Will the plant exceed their respective quantities?							
15.4	Are respirators, monitoring devices, signage, or other specialty controls required?							
15.5	Have safer alternative chemicals been evaluated?							
15.6	Is a PSM Program required? Has a LOPA/HAZOP been completed?							
16	HAZARDOUS WASTE							
16.1	Does the new process or chemical create a hazardous waste?							
16.2	Have waste products (including wastewater, solids, concentrated liquids, sludges, etc.) been characterized to determine if they are classified as hazardous, or special, or non-hazardous?							

* Depending on nature of item, a checked box may identify the need for corrective action.

FULL PROJECT SAFETY REVIEW PLAN

16.3	Are there procedures to properly dispose of this waste and is the operating group familiar with them?							
16.4	If a hazardous waste accumulation area or satellite area been identified?							
16.5	Is waste segregation needed to eliminate potentially hazardous reactions?							
16.6	Does the process involve any form of on-site waste treatment?							
17	ABOVEGROUND/UNDERGROUND STORAGE TANKS							
17.1	Are there any storage tanks?							
17.2	Does the tank contain a regulated substance?							
17.3	Has the tank been leak tested? When was it performed and who did it?							
17.4	Is the tank seismically braced?							
17.5	If tank is aboveground, does it have spill containment?							
17.6	Does the tank have a loading spill containment area?							
17.7	Are tanks properly labeled?							
17.8	Is access adequate? Fall systems required?							
17.9	Have applicable permits been received and filed with OC San?							
17.10	Are updates to the hazardous materials business plan required?							
18	SPILL CONTROL							

* Depending on nature of item, a checked box may identify the need for corrective action.

FULL PROJECT SAFETY REVIEW PLAN

18.1	Have procedures been developed for how OC San will respond to spilled chemicals?							
18.2	Has the spill containment area been flow tested?							
18.3	Is the size of the containment adequate?							
19	ELECTRICAL HAZARDS							
19.1	Equipment designed against applicable codes and standards (i.e., National Electrical Code, OSHA, etc.)?							
19.2	Does the project comply with NFPA 820?							
19.3	Is equipment correctly fused and grounded per NEC?							
19.4	Are motor overloads correctly sized?							
19.5	Can all power switchgear be locked and tagged out?							
19.6	Are ground fault interrupters in place where use is required by code?							
19.7	Are switches labeled as to function?							
19.8	Are all portable electric tools double insulated or properly grounded and equipped with portable GFIs, where needed?							
19.9	Are minimum working spaces maintained?							
19.10	Are conductors insulated or guarded to prevent contact?							

* Depending on nature of item, a checked box may identify the need for corrective action.

FULL PROJECT SAFETY REVIEW PLAN

19.11	Are operator controlled voltages 120V or less and isolated from power source voltages?							
19.12	Are electrical circuits labeled at source and equipment?							
19.13	Do all electrical motors and fittings meet classified area requirements (explosion-proof, vapor tight, etc.)?							
19.14	Does equipment and panel doors swing a minimum of 90 degrees open?							
19.15	Is emergency stop easily accessible and labeled?							
19.16	Is voltage and current rating of portable power cord sufficient for its application?							
19.17	Is emergency lighting and exits signs installed as required?							
19.18	Are indicating lights and alarms provided where needed?							
19.19	Will current produce an electromagnetic field? Are signs posted?							
19.20	Are arc flash labels provided on equipment or posted in accordance with NEC?							
19.21	Have controls been designed to be fail-safe?							
19.22	Has an adequate power source been identified and approved by the power engineer?							
19.23	Is the project within 20 feet of exposed high voltage lines?							
19.24	Is signage, appropriate for the voltage level, installed?							
20	PRESSURE HAZARDS							

* Depending on nature of item, a checked box may identify the need for corrective action.

FULL PROJECT SAFETY REVIEW PLAN

20.1	Are gauges compatible with their application and calibrated?							
20.2	Do gauges have blow-out backs and safety fronts? (For those with 4-1/2" face diameter and larger.) ◀							
20.3	Are there adequate relief devices installed near potential sources of over-pressure or pressure buildup (no valve between pressure relief device and pressure source)?							
20.4	Are relief devices and gauge blow-outs positioned so that discharge does not constitute a safety or health hazard if they blow?							
20.5	Do pressure vessels have current inspection?							
20.6	Are flexible pressure lines secured to protect personnel in case of failure?							
20.7	Have non-destructible type safety relief devices been tested at set-point condition?							
20.8	Have check valves been installed where necessary to hold a position or clamp in event of pressure loss?							
20.9	Is internal pressure released when system is shut down (e. g., constant bleed valve installed)?							
20.10	Can it be relieved for maintenance?							
20.11	Are valves easily and safely accessible?							
20.12	Have excess flow shut off valves been installed where a ruptured hose may cause injury?							
20.13	Are regulators compatible with gases being used?							

* Depending on nature of item, a checked box may identify the need for corrective action.

FULL PROJECT SAFETY REVIEW PLAN

20.14	Are cylinders correctly secured?							
20.15	Are cylinders labeled with appropriate hazard warning (nonflammable, flammable, poison, corrosive, oxidizer)?							
20.16	Are flammable, poison, and corrosive cylinders stored outdoors or in gas cabinets vented to the outside?							
20.17	Are cylinders stored and used in an upright position?							
20.18	Is a 25 ft separation or noncombustible barrier maintained between stored flammable gas cylinders and flammable liquids, combustible materials, oxidizing cylinders, open flames, or other sources of ignition?							
20.19	Has double piping been used for poison and corrosive cylinders?							
20.20	Is piping material compatible with gases and appropriate for use? Properly labeled?							
21	VACUUM HAZARDS							
21.1	Is exhaust from vacuum pumps safely vented when necessary?							
21.2	Are safeguards in place to protect personnel from potential implosion hazards?							
21.3	Are measures taken to prevent contamination of pumps from process materials (i.e., traps, etc.)?							
22	CHEMICAL HAZARDS							
22.1	Are chemical handling procedures developed?							

* Depending on nature of item, a checked box may identify the need for corrective action.

FULL PROJECT SAFETY REVIEW PLAN

22.2	Are materials of construction compatible with reactants and products (gases, liquids, solids)?							
22.3	Are there provisions to prevent chemicals from reacting with others nearby or in a common exhaust system?							
22.4	Are there separate storage facilities for incompatible materials?							
22.5	Are unintentional ignition sources eliminated (smoking, open flames, static electricity, hot plates, hot motors)?							
22.6	Are the amounts of flammable liquids stored outside of storage rooms or storage cabinets less than 1 pint for OSHA Class I flammable liquids?							
22.7	Are warning signs posted?							
22.8	Is ventilation adequate to reduce concentration below 10% of the lower explosive limit?							
22.9	All electrical outlets outside hood?							
22.10	Lab fume hood face velocity >100 fpm?							
22.11	Continuous flow monitor installed on fume hoods?							
22.12	Are valve fittings and flanges compatible with the chemical in use?							
22.13	Are hoses compatible with material used?							
22.14	Are pipes carrying corrosive materials properly labeled?							

* Depending on nature of item, a checked box may identify the need for corrective action.

FULL PROJECT SAFETY REVIEW PLAN

22.15	Are volatile components safely vented?							
22.16	Are oxidizers stored away from heat?							
22.17	Are any high energy oxidizers (explosives) used?							
23	TEMPERATURE HAZARDS							
23.1	Are hot surfaces guarded, insulated, and marked?							
23.2	Is the correct Personal Protective Equipment consistent with the hazards that are present?							
23.3	Has a change in temperature occurred that now may cause an explosion, increased exposure, or release to the environment?							
23.4	Does equipment have over-temperature protection (e.g., can runaway condition occur if thermocouple shorts outside of furnace, etc.)?							
23.5	In addition to above, has the high pressure/high temperature piping system testing/inspection procedure been completed? (Contact Engineering)							
23.6	Are system temp ratings adequate (piping, fittings, valves, etc.) for the flow media at the operating temperature?							
23.7	Cryogenic fluids are handled and stored only in containers and piping systems specifically designated to withstand extremely cold temperatures?							
23.8	Cryogenic operations occur in areas with sufficient exhaust ventilation?							
23.9	Cryogenic systems have adequate pressure relief systems?							

* Depending on nature of item, a checked box may identify the need for corrective action.

FULL PROJECT SAFETY REVIEW PLAN

23.10	Are cryogenic handling procedures developed?							

*** Depending on nature of item, a checked box may identify the need for corrective action.**

EXHIBIT 14

BLUEBEAM DESIGNER TRAINING FOR SUBMISSION

Design Submittal Reviews using Bluebeam Studio Sessions
SOW Exhibit 14 - BlueBeam Designer Training for Submission



OC SAN Bluebeam Studio Support: Thomas Vu – tvu@ocsan.com 714-593-7272

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14.0 HISTORY OF CHANGE

Major or Minor Revision	Revision and Version	Author	Date	Change	Revision Approval
	R0	AECOM	10/12/17	Initial Release of Training Document	
	R1	AECOM	11/08/17	Revisions to document naming convention.	
	R2	Dionne Kardos	5/17/18	Added section 2.3.f on removing special characters.	
	R3	M. Dix	7/17/18	Updated to match recent comment validation training. Added bookmarking clarification.	
	R4	Cassey Hong	11/21/18	Updated screenshots for Bluebeam Revu 2018. Word edit for 17.2.5 (Removed "File" before "Batch").	
	R5	M. Dix	6/17/19	Reoganized file naming convention.	
	R6	M. Dix	10/16/19	Updated the screenshots and corrected mistakes	

14.1 INTRODUCTION

- A. This document covers the process of formatting PDF documents prior to submission to OC SAN and requires the use of Bluebeam Studio eXtreme. Contact Bluebeam for purchase if needed.

14.2 DRAWING / DOCUMENT PREP PRIOR TO SUBMISSION

14.2.1 CREATE PDF DRAWING FILES

- A. Print CAD files to PDF format
 - 1. Follow CAD manual guidelines for format of drawing documents
 - 2. If drawing set exceeds 100 MB, split files into volumes per OC SAN CAD manual guidelines.
- B. If digital file does not exist, scan hard copy – See section 17.3 for hard copy instructions.
 - 1. Limit scanned files to a size of 50 MB

14.2.2 FLATTEN EXISTING MARKUPS

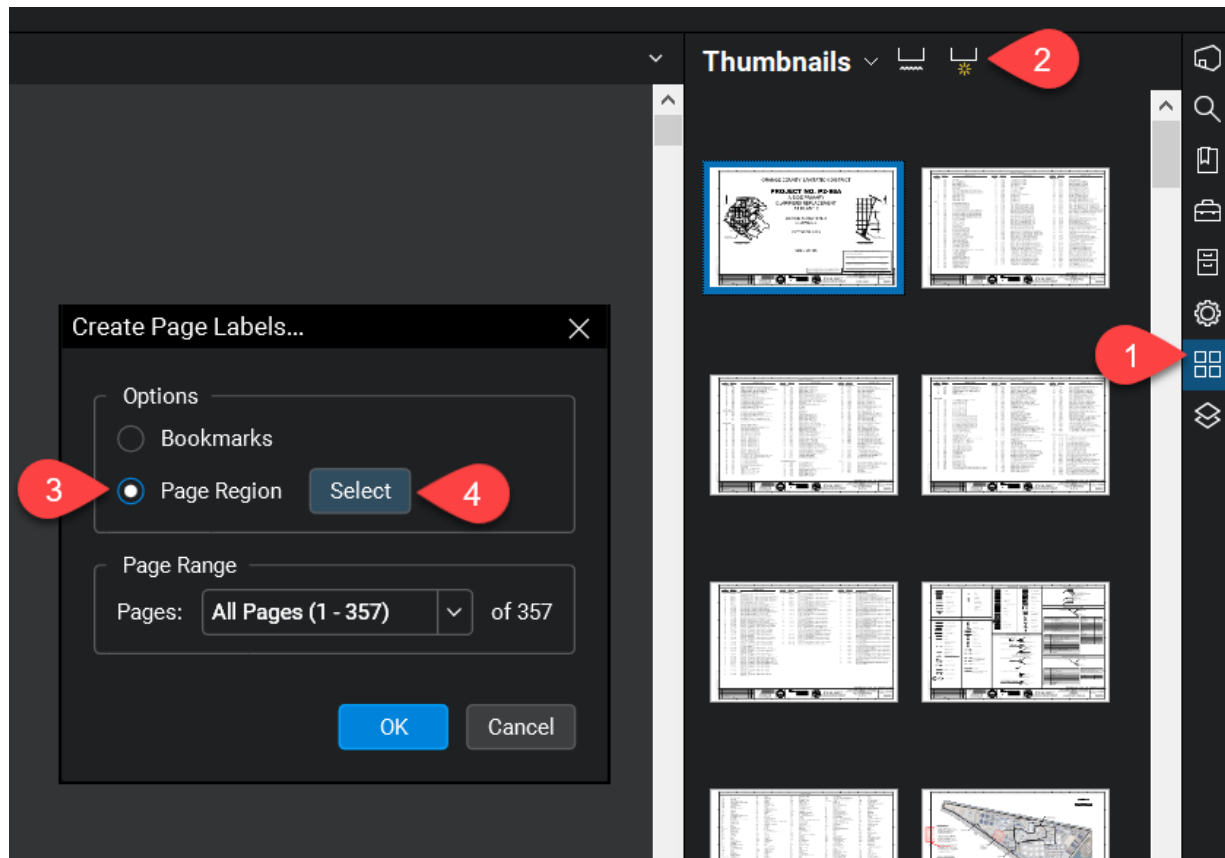
- A. Document > Flatten

14.2.3 REDUCE FILE SIZE

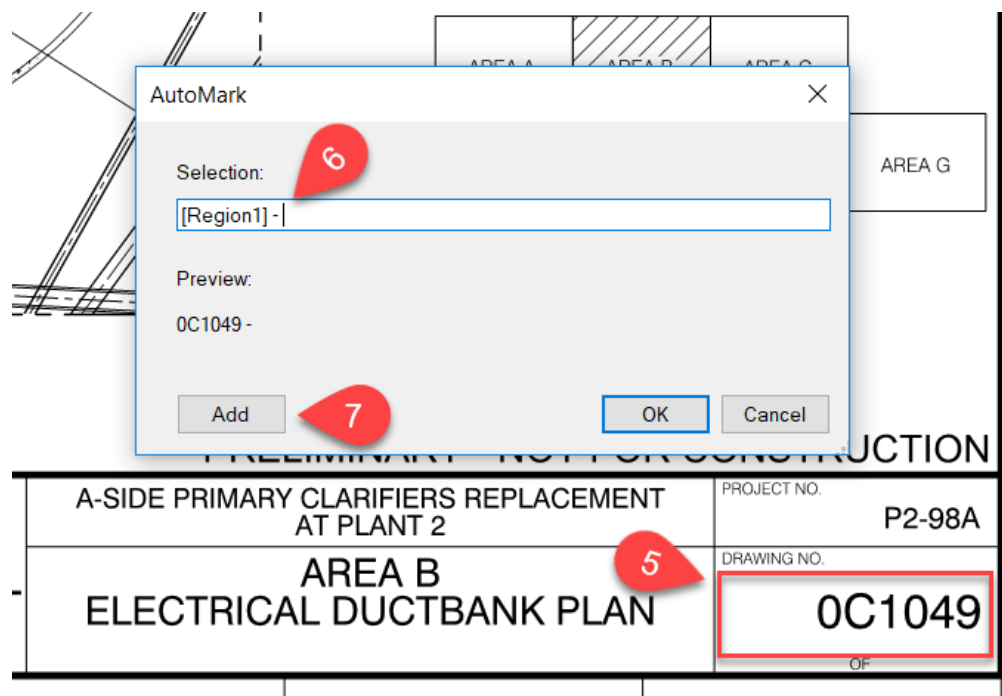
- A. Document > Reduce File Size

14.2.4 CREATE PAGE LABELS

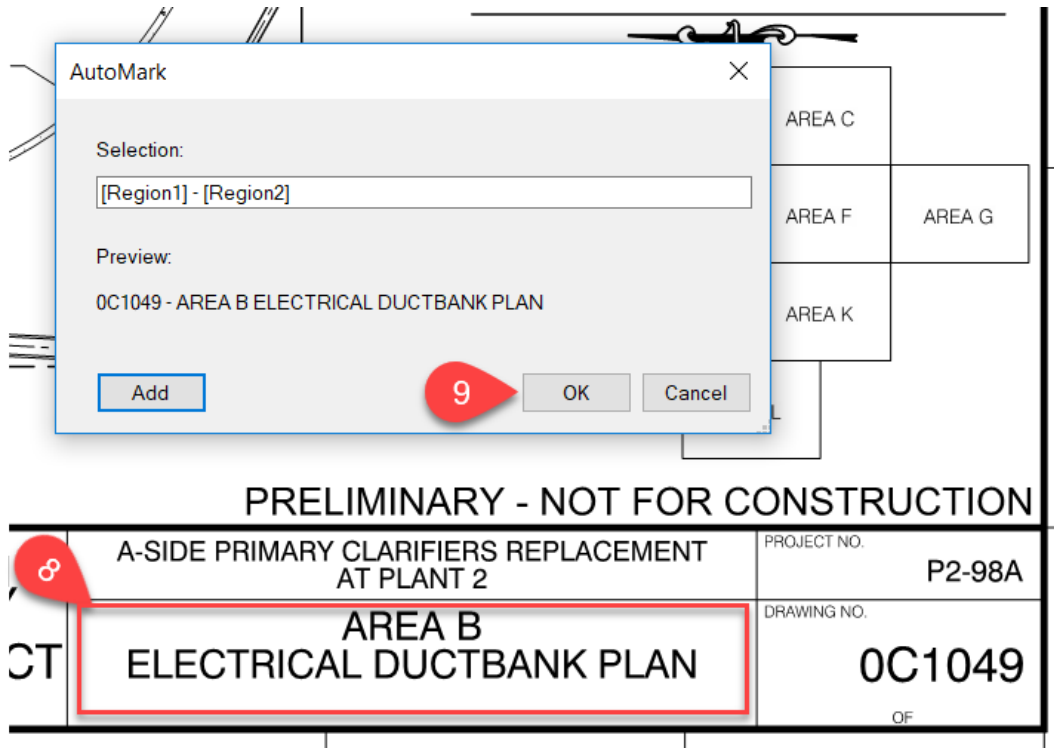
- A. Zoom into area on document containing information for page label
 - 1. Go to Thumbnail Tab
 - 2. Create Page Label
 - 3. Select “Page Region”
 - 4. Click “Select”



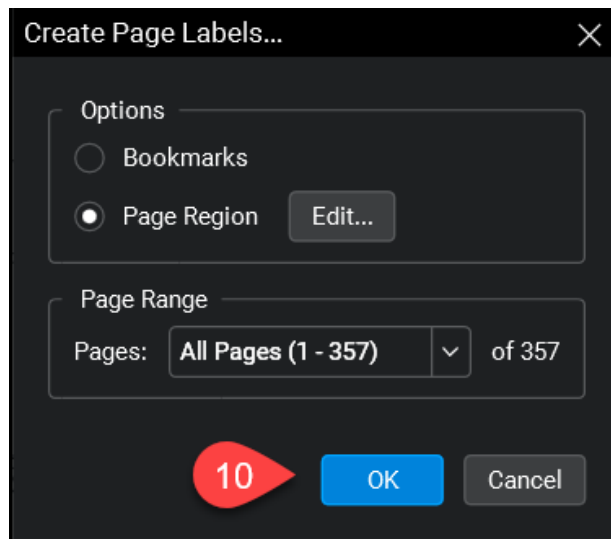
5. Select [Region1] of page label – sheet number.
6. Add " - "after [Region1]
7. Click "Add" to select a second region for page label



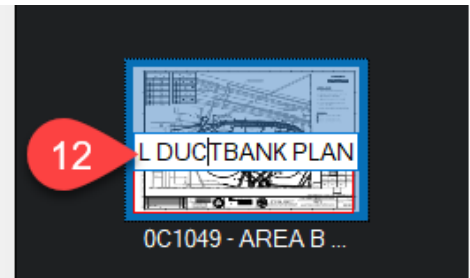
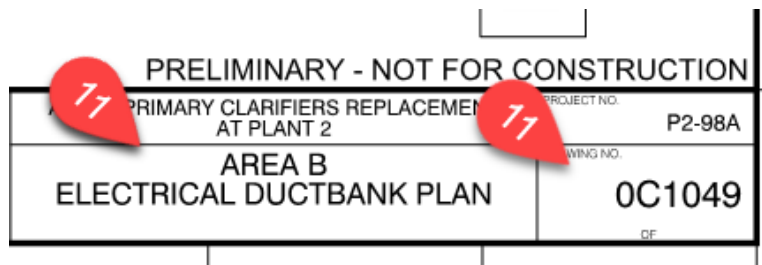
8. Select [Region2] of page label – sheet title
9. Click “OK”



10. Click “OK” > Page labels will generate



11. Review page label generation – sheet number and title have been captured properly
12. If incorrect, double left click and change



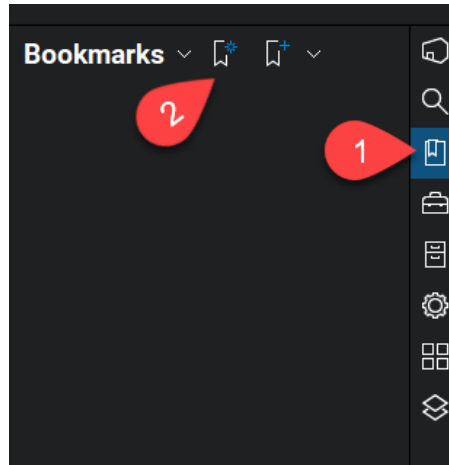
B. Remove special characters from generated Bluebeam page label. They can be used on drawings and CAD sheet, but not as a page label or in a PDF filename. When OC SAN separates these sheets to be individual PDFs for SharePoint, there are PDF naming restrictions. Remove or replace these special characters:

" – quotation mark	/ – forward slash
# – pound, hashtag, number sign	\ – backslash
% – percent sign	– vertical bar, also known as the "pipe" symbol
* – asterisk, star	~ – tilde
: – colon (semicolon is allowed)	& – ampersand (replace with "and")
< – less than symbol	[] { } – all angle brackets
> – greater than symbol	
? – question mark	

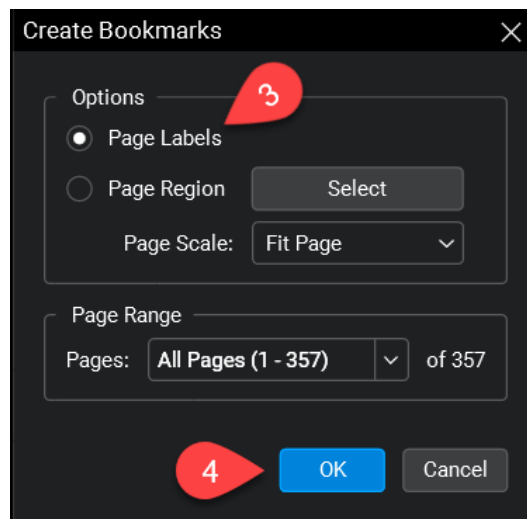
14.2.5 BOOKMARKING

A. Creating Bookmarks

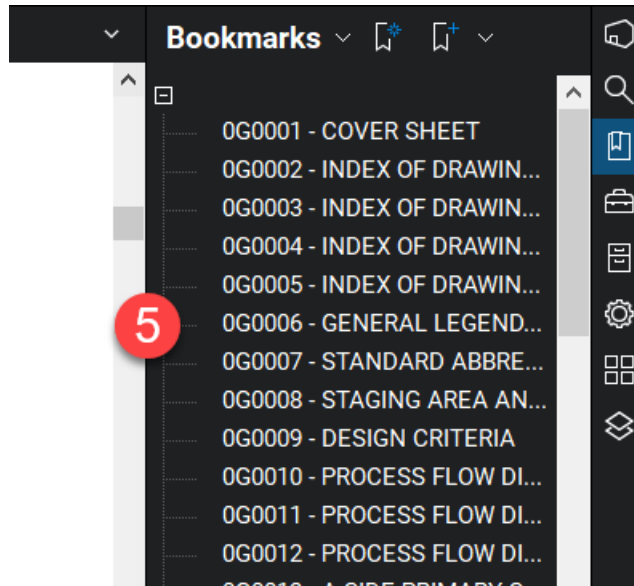
1. Go to Bookmark Tab
2. Create Bookmarks



3. Select by "Page Labels"
4. Click "OK"



5. Bookmarks will appear on right hand toolbar

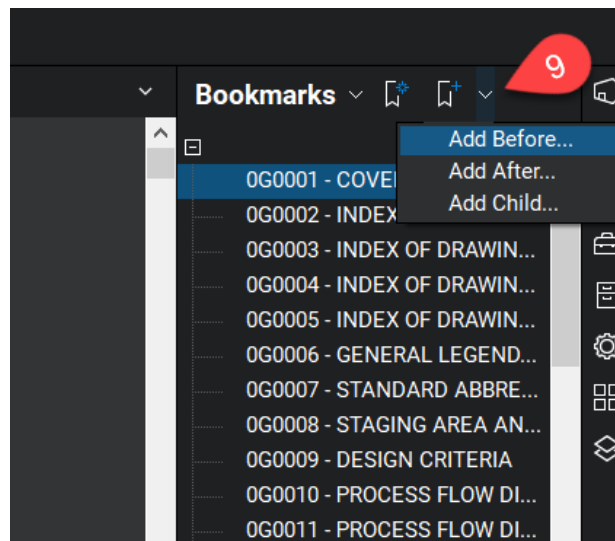


6. Confirm sheet names again – if incorrect, change label and regenerate bookmarks

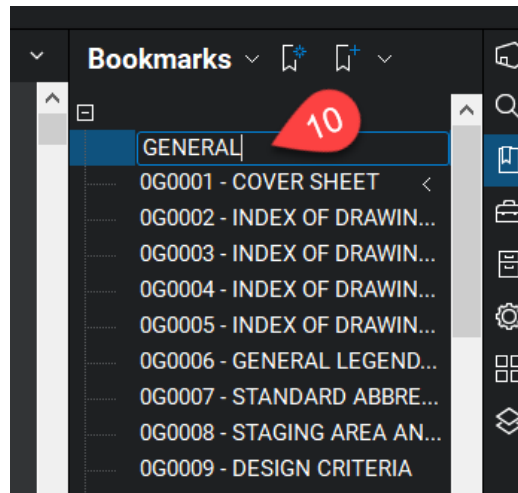
7. Bookmarks should be kept short for usability. Long bookmarks are difficult to work with so abbreviate long titles to shorten them like “P&ID.” After generating bookmarks, group drawing bookmarks by division.

8. Example: group general sheets under GENERAL bookmark

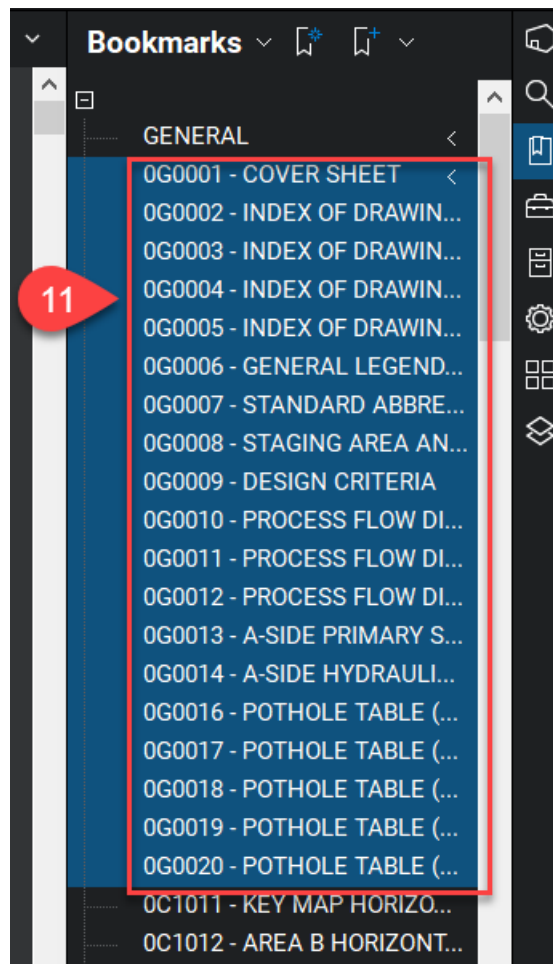
9. Select first general sheet bookmark (0G0001) and select Dropdown Menu for Add Bookmarks > Add Before...



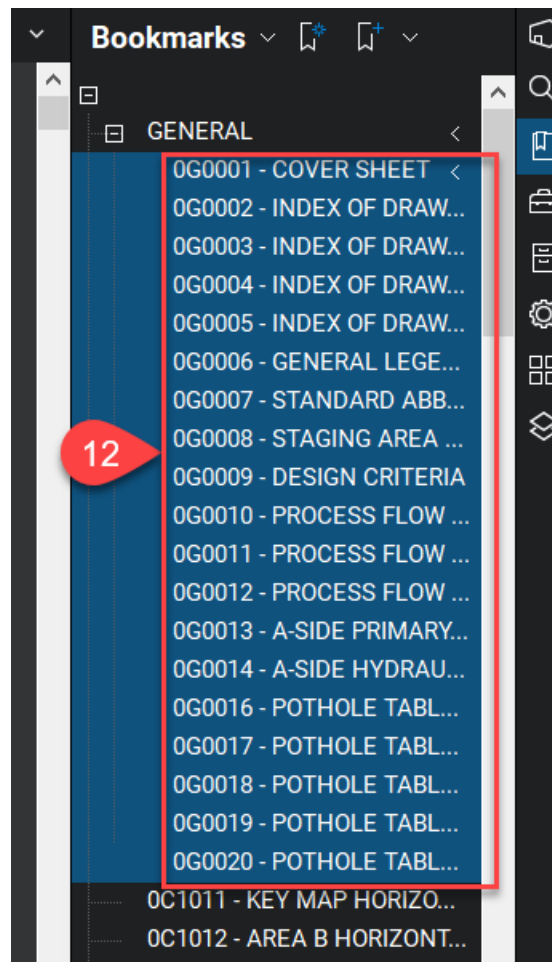
10. Add new bookmark GENERAL



11. Select all general sheets (use shift key to select range) and nest under GENERAL



12. Click and drag selection to GENERAL

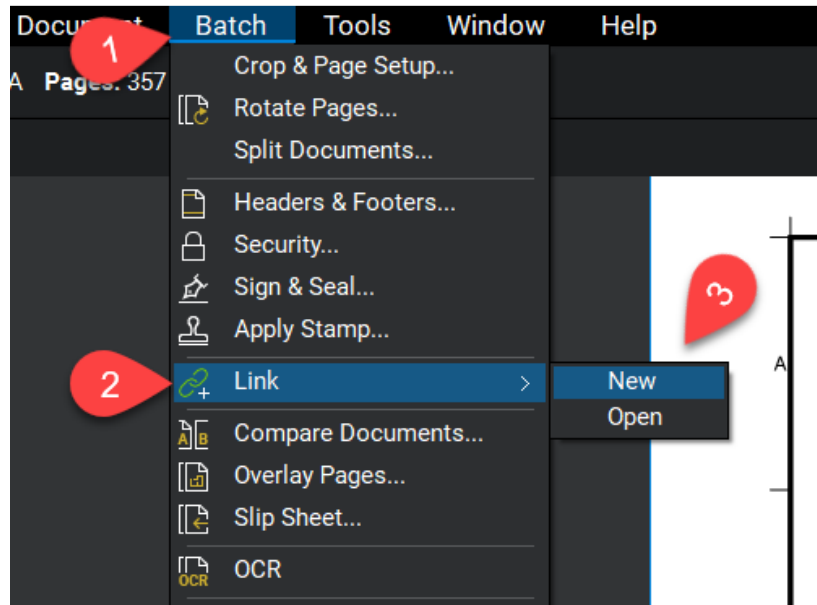


13. Repeat for all disciplines

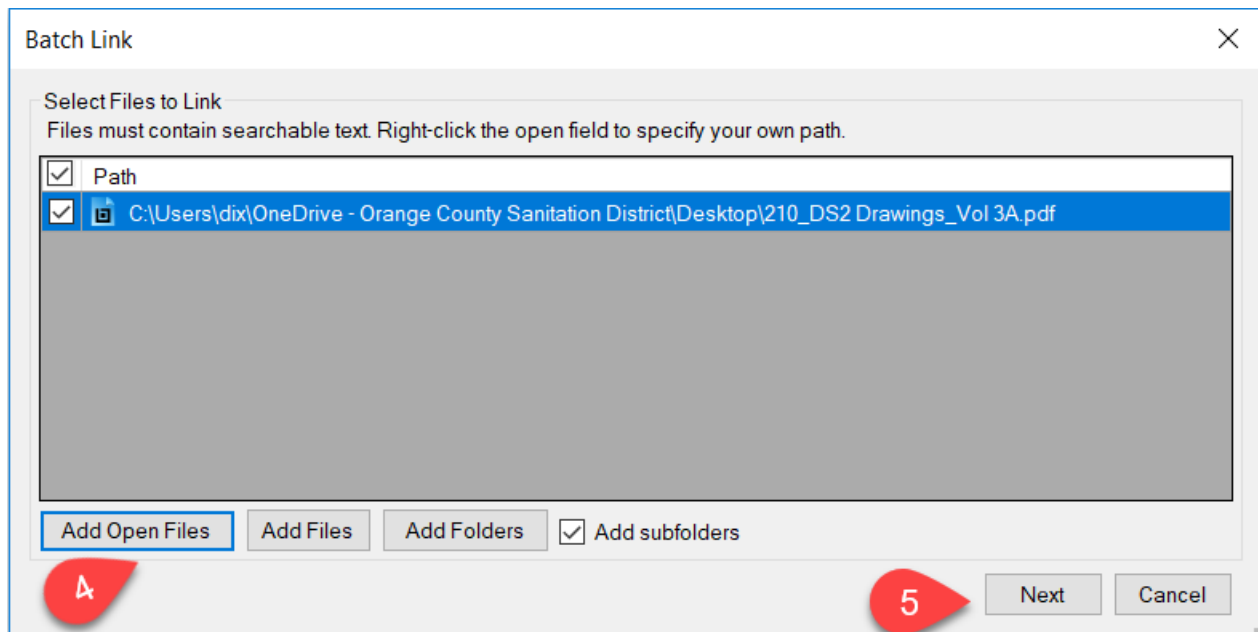
14.2.6 HYPERLINK DOCUMENTS

A. Creating Hyperlinks

1. Go to Batch
2. Link
3. New



4. Select "Add Open Files"
5. Click "Next"



6. Select "Settings"

Batch Link

Generate Search Terms

Batch Link searches for the terms below and links them to the corresponding destination. This list can be generated automatically using Filename, Page Region, or Page Label. Refine your search criteria via Settings. Click Generate to build your list.

☐ Filename
☐ Page Region
☒ Page Label

Select

Scan Preview

Scan Result: "0G0001 - COVER SHEET"

Search Term: "0G0001"

Settings

Generate

Manage Links

☒ Search Terms
Destination

Import...

Export...

Link Options

Back

Save Config

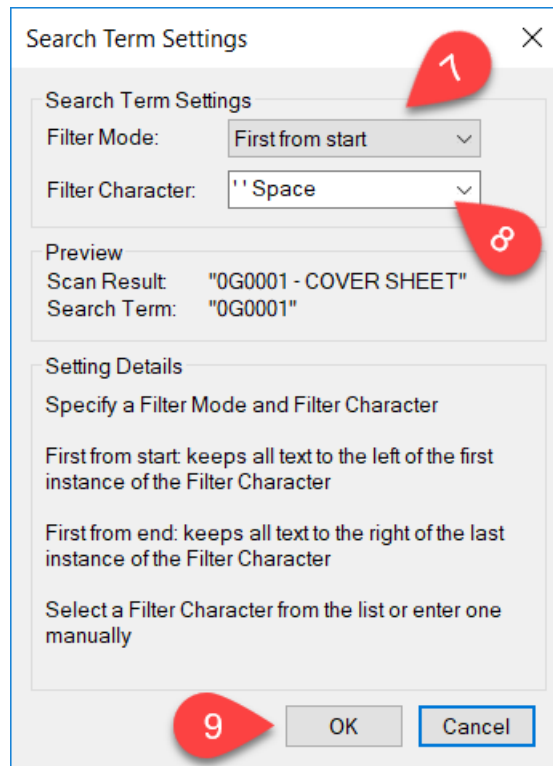
Run

Cancel

7. Select Filter Mode: "First from start"
8. Select Filter Character: "'-Space"
9. Click "OK"

OC SAN Design Submittal Reviews Using Bluebeam Studio Sessions
SOW Exhibit 14 - BlueBeam Designer Training for Submission

12 | Page



10. Select "Page Label"
11. Click "Generate"
12. Search terms have generated
13. Click "Run" to create hyperlinks

Batch Link [X]

Generate Search Terms
 Batch Link searches for the terms below and links them to the corresponding destination. This list can be generated automatically using Filename, Page Region, or Page Label. Refine your search criteria via Settings. Click Generate to build your list.

☐ Filename
☐ Page Region Select
☒ Page Label 10

Scan Preview
 Scan Result: "0G0001 - COVER SHEET"
 Search Term: "0G0001" 11
Settings
Generate

Manage Links

☒ Search Terms	Destination
☒ 0G0001	page 1 in 210_DS2 Drawings_Vol 3A.pdf
☒ 0G0002	page 2 in 210_DS2 Drawings_Vol 3A.pdf
☒ 0G0003	page 3 in 210_DS2 Drawings_Vol 3A.pdf
☒ 0G0004	page 4 in 210_DS2 Drawings_Vol 3A.pdf
☒ 0G0005	page 5 in 210_DS2 Drawings_Vol 3A.pdf
☒ 0G0006	page 6 in 210_DS2 Drawings_Vol 3A.pdf
☒ 0G0007	page 7 in 210_DS2 Drawings_Vol 3A.pdf
☒ 0G0008	page 8 in 210_DS2 Drawings_Vol 3A.pdf
☒ 0G0009	page 9 in 210_DS2 Drawings_Vol 3A.pdf
☒ 0G0010	page 10 in 210_DS2 Drawings_Vol 3A.pdf
☒ 0G0011	page 11 in 210_DS2 Drawings_Vol 3A.pdf
☒ 0G0012	page 12 in 210_DS2 Drawings_Vol 3A.pdf

Import... Export... Link Options
Back Save Config 13 Run Cancel

14. Click "Finish and Close"

Batch Link Summary [X]

Batch Link Complete

3371 Hyperlinks Created
 262 Hyperlinks Deleted
 0 Pages were skipped
 0 Files could not be opened

Back Finish and Close Details

14.3 FILE NAMING CONVENTION

A. Use following Naming convention for documents

Review Phase	Document Name	
PDR – Preliminary Design Report	900_PDR Design Review Matrix.pdf	
	910_PDR Drawings.pdf*	
	920_PDR Specifications.pdf	
	930_PDR Reports.pdf*	
	940-969_PDR Memos.pdf*	940_PDR Design Memo 1.pdf
		941_PDR Design Memo 2.pdf
		942_PDR Technical Memo 1.pdf
		943_PDR Design Memo 3.pdf
		944_PDR Technical Memo 2.pdf
	970-999_PDR Calculations	970_PDR Hydraulic Calcs.pdf
		971_PDR Gen Sizing Calcs.pdf
		972_PDR Lighting Calcs.pdf
DS-1 – Design Submittal 1	800_DS1 Design Review Matrix.pdf	
	810-819_DS1 Drawings.pdf*	810_DS1 Drawings Vol 1.pdf
		811_DS1 Drawings Vol 2.pdf
	820_DS1 Specifications.pdf	
	830_DS1 Reports.pdf*	
	840_DS1 Memos.pdf*	
DS-2 – Design Submittal 2	700_DS2 Design Review Matrix.pdf	
	710_DS2 Drawings.pdf*	
	720_DS2 Specifications.pdf	
	730_DS2 Reports.pdf*	
	740_DS2 Memos.pdf*	
DS-3 – Design Submittal 3	600_DS3 Design Review Matrix.pdf	
	610_DS3 Drawings.pdf*	
	620_DS3 Specifications.pdf	
	630_DS3 Reports.pdf*	
	640_DS3 Memos.pdf*	
FDS - Final Design Submittal	500_FDS Design Review Matrix.pdf	
	510_FDS Drawings.pdf*	
	520_FDS Specifications.pdf	

Review Phase	Document Name
FDS BCK- Final Design Submittal Backcheck	530_FDS Reports.pdf*
	540_FDS Memos.pdf*
	400_FDS BCK Design Review Matrix.pdf
	410_FDS BCK Drawings.pdf*
	420_FDS BCK Specifications.pdf
	430_FDS BCK Reports.pdf*
	440_FDS BCK Memos.pdf*

B. Items with an (*) may have additional submissions.

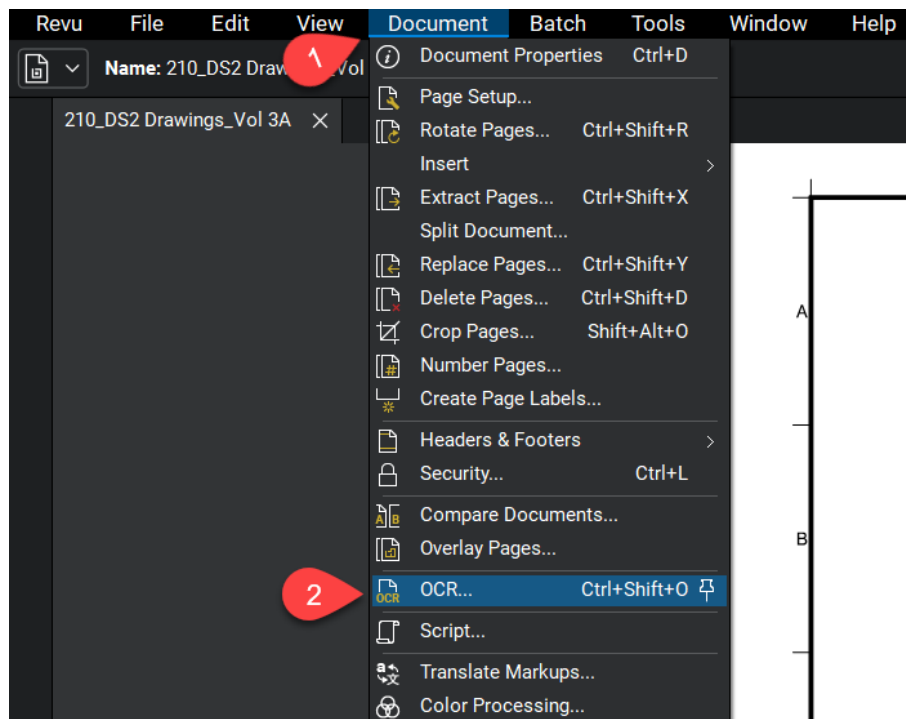
14.4 HARD COPY FILE INSTRUCTIONS

A. This section covers the additional step required for project documents that are in hard copy only. This step is required to ensure that the document is searchable for the creation of hyperlinks. Add this step just before Hyperlinking Documents.

B. If a file is old and does not have a digital file – scan documents

C. Open scanned file in Bluebeam

1. Go to Document > OCR
2. Select OCR... to bring up configuration



3. Click "OK" to create OCR document

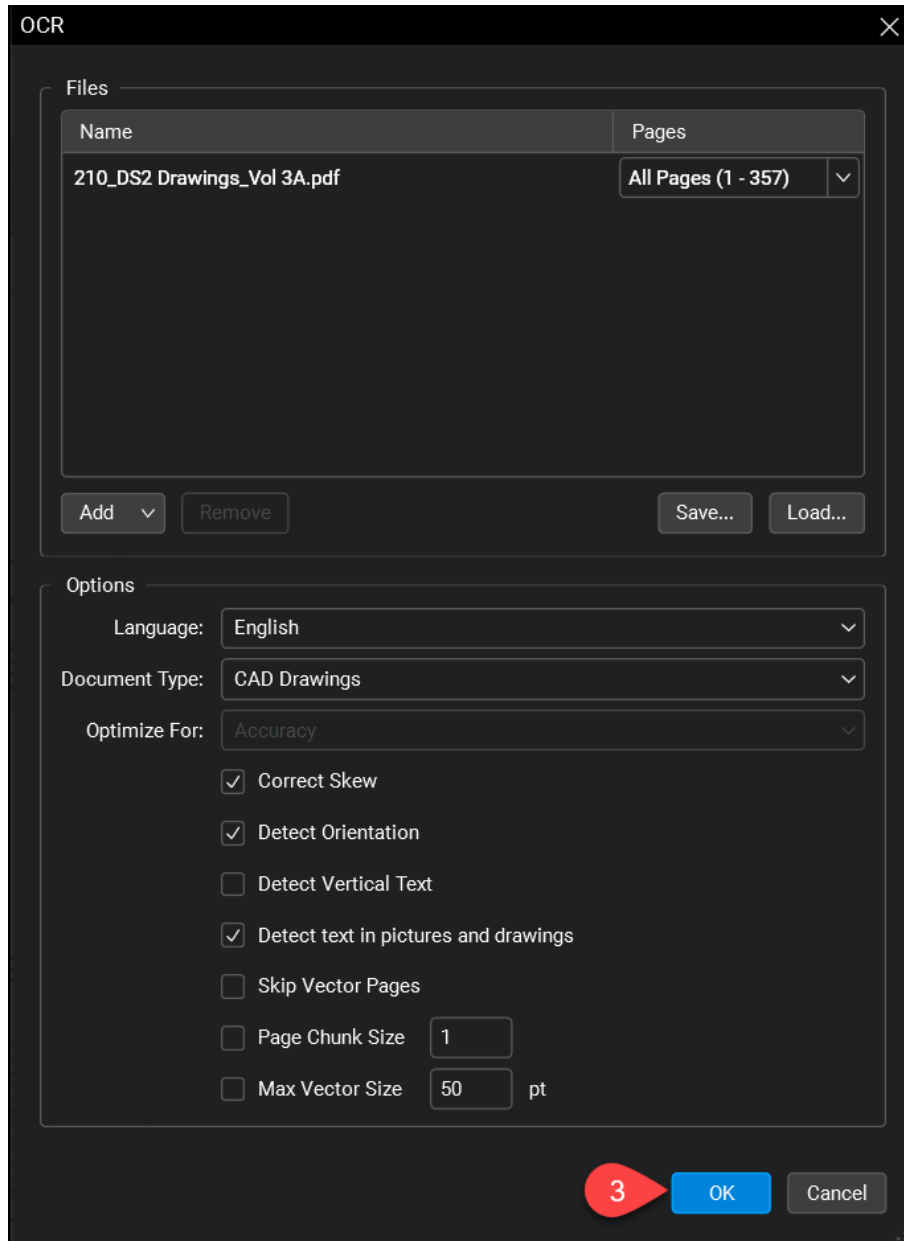


EXHIBIT 15

BLUEBEAM DESIGNER USER TRAINING

Design Submittal Reviews using Bluebeam Studio Sessions

SOW Exhibit 15 – BlueBeam Designer User Training



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	SOW Exhibit 15 - BlueBeam Designer User Training	Error!
	Bookmark not defined.	
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15.0 HISTORY OF CHANGE

Major or Minor Revision	Revision and Version	Author	Date	Change	Revision Approval
	R0	AECOM	10/12/17	Initial Release of Training Document	
	R1	AECOM	11/08/17	Revisions to Section 4.0	
	R2	M. Dix	7/17/18	Updated to match recent comment validation training.	
	R3	C. Hong	11/28/18	Updated screenshots and matched text for Bluebeam Revu 2018.	
	R4	M. Dix	6/17/19	Removed duplication sections with SOW Exhibit 17 – Designer Training for Submission.	
	R5	M. Dix	12/6/19	Revised backcheck process and provided more explanation. Added new status menu item QUESTION ANSWERED (per reply).	
	R6	T.Vu	12/6/19	Revised account creation process as well as removed troubleshooting section. Updated Table of Contents.	
	R7	M. Dix	5/22/20	Moved BB intro language from SOW Boilerplate to this exhibit.	

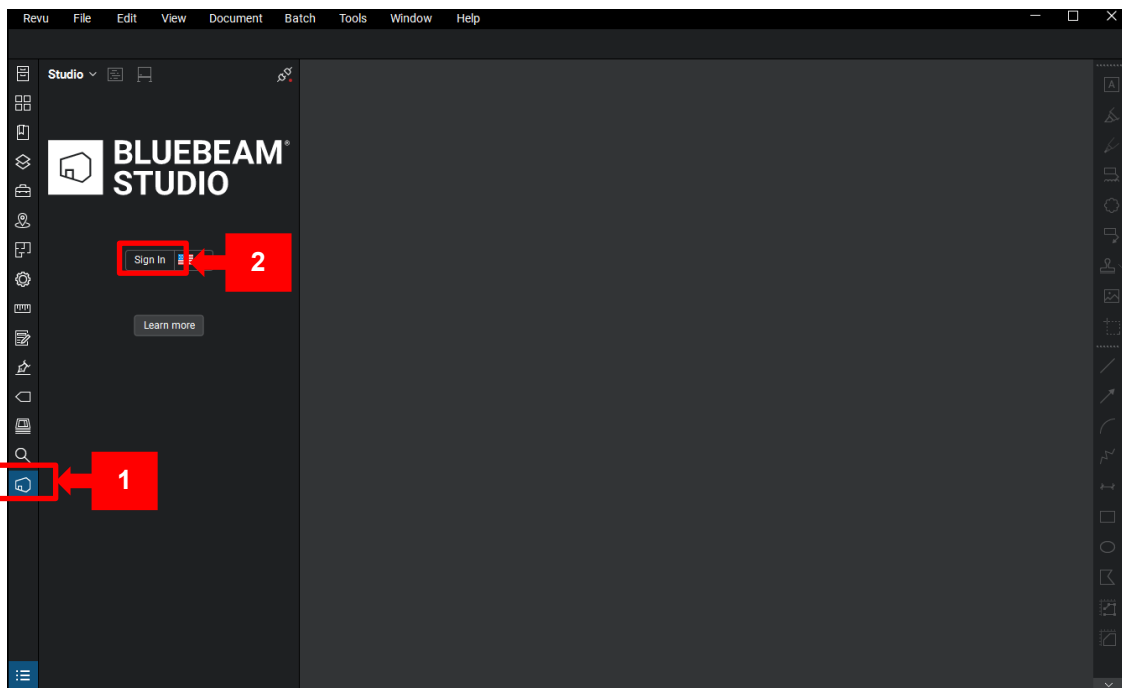
15.1 INTRODUCTION

- A. This document covers joining a studio session and participating in the digital design review process for OC SAN. Once you have installed Bluebeam and setup your Bluebeam Studio account, you will be able to join studio sessions to complete the design review process.
- B. The purpose of the studio session is to provide review and collaboration. The session provides multiple attendees, despite location, the opportunity to review and comment on the same PDFs in real time. All review actions are tracked and recorded.
- C. OC SAN staff will create the Bluebeam studio session, invite attendees, configure, and manage the Studio session.
- D. Bluebeam provides reviewers with tools for annotating PDFs called a markup. OC SAN provides the toolbox "OC SAN Review" inbedded in the "NEW_OC SAN" profile for annotating PDFs.
- E. Markups are both graphical and tabular. When the graphic markup is placed, corresponding tabular data are created. The collection of tabular data is considered the markup list. <Alt + L> toggels the display of the markup list.
- F. The markup is automatically populated with various properties including Subject (or markup type), Page Label, Creation Date, Author, Status, and Comment. The tabular data within the markup list are hyperlinked to the graphical markup for back-and-forth viewing.
- G. The markup list may be sorted or filtered. For example, filtering markups by author makes that attendee's markups more prominent on the page by dimming everyone else's markups.
- H. Within a studio session, markups may only be modified by the markup author except for the Status data field using the "Set Status" command. OC SAN has customized this field for the reconciliation of comments and backcheck. Session attendees may "Reply" to the markup of other reviewers. Replying to a markup provides the responder the opportunity to explain how the markup will be incorporated.
- I. The comment reconciliation steps are summarized below:
 - 1. Reply – respond to OC SAN review comment with: AGREE, DISAGREE, FLAG FOR DISCUSSION, or QUESTION ANSWERED.
 - 2. Direct – meet with OC SAN to reconcile the non-agrees with either an INCORPORATE or DO NOT INCORPORATE response. OC SAN will work with Design-Builder to ensure clear direction is provided.
 - 3. QC Check – Design-Builder tells OC SAN that the comment has been addressed in the next submittal by responding with INCORPORATED or NOT INCORPORATED.
 - 4. Backcheck – reconciliation of open and incorporated comments by OC SAN with an OPEN or CLOSED response.

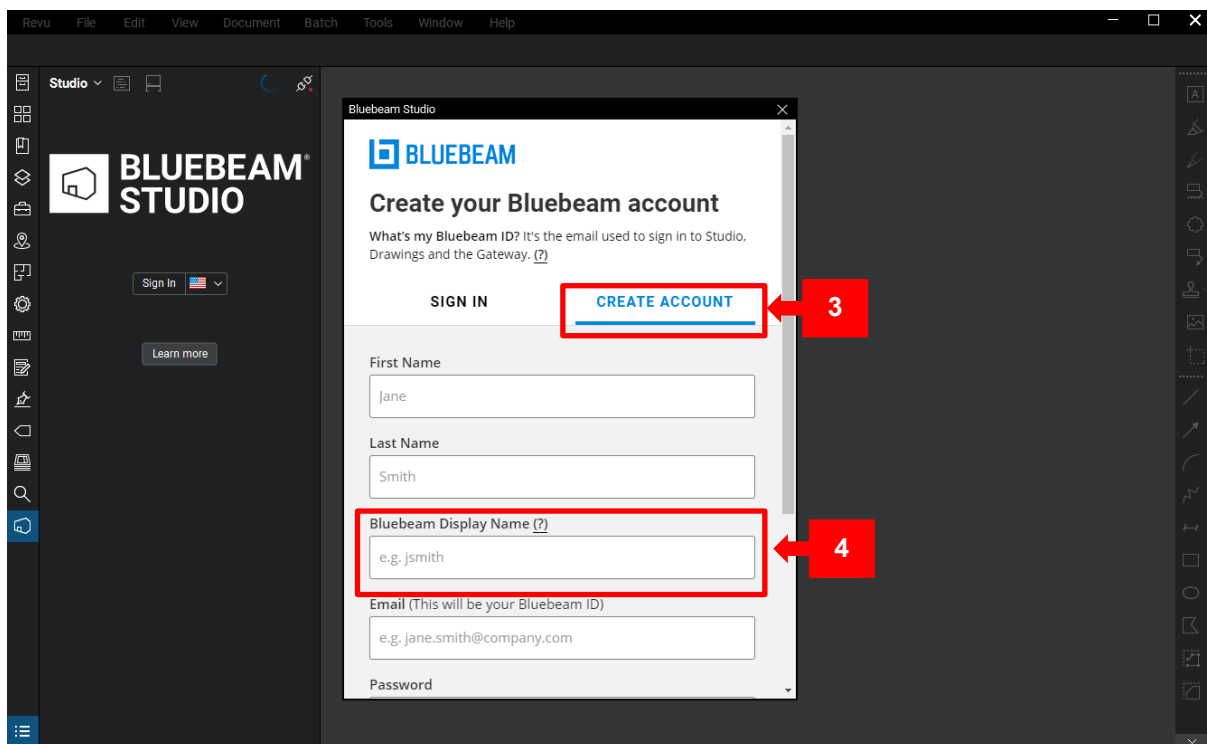
15.2 CREATING AN ACCOUNT AND NAMING CONVENTION

15.2.1 CREATING A STUDIO ACCOUNT

- A. Open Bluebeam Revu
 - 1. Click on Studio icon
 - 2. Click on Sign In



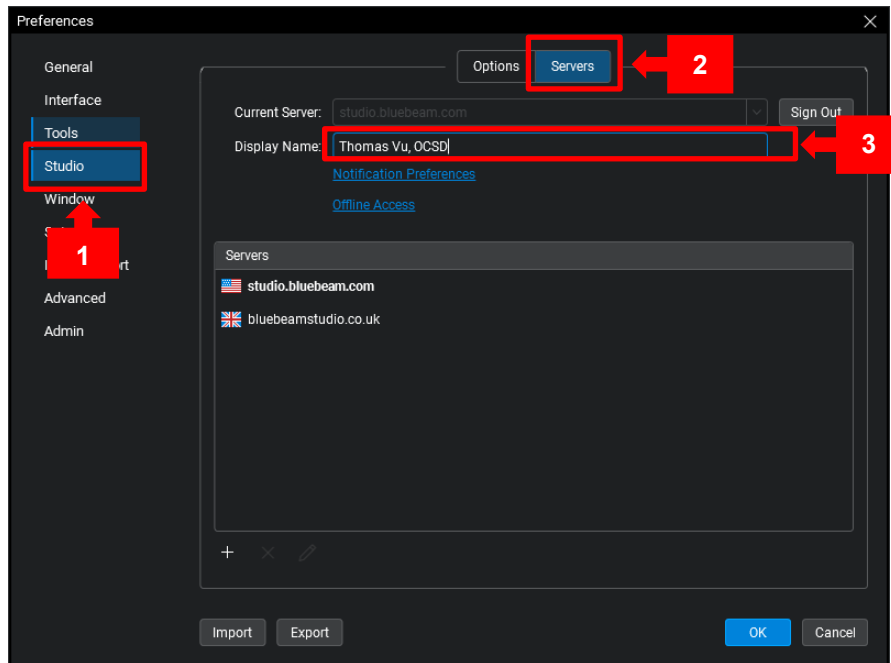
3. Click on CREATE ACCOUNT
4. Change the Bluebeam Display Name to (First Last, Company)
 - a. Company = Your company name
 - b. Example: Martin Dix, OC SAN



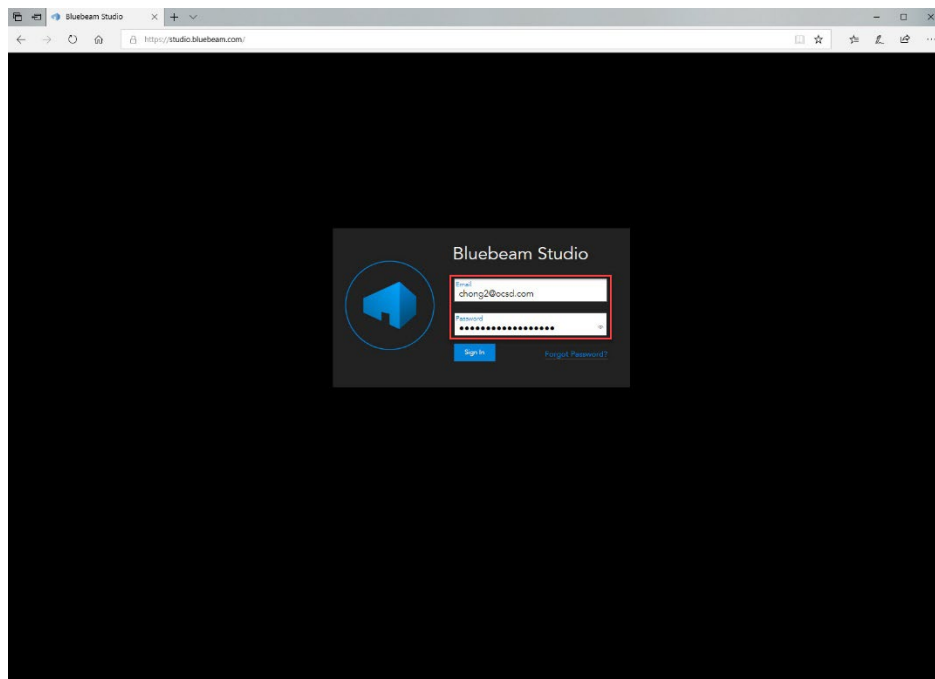
15.2.2 INCORRECT NAMING CONVENTION

- A. You can edit your Bluebeam Display Name after your Studio account is created

- B. Open Bluebeam > Hold CTRL + K on your keyboard to open Preferences
1. Click Studio
 2. Click Servers
 3. Display Name: First Last, Company

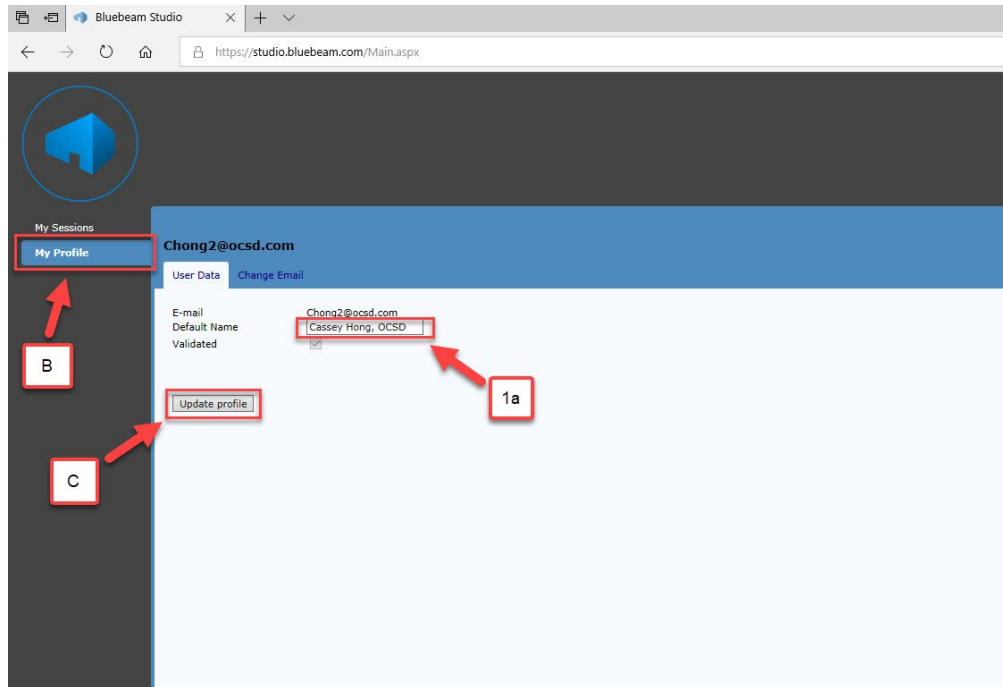


4. Now open a web browser and log into studio.bluebeam.com
5. Login using @Company.com email and Bluebeam password



- C. Go to My Profile
1. Update Default Name
 - a. First Last, Company

D. Click Update Profile



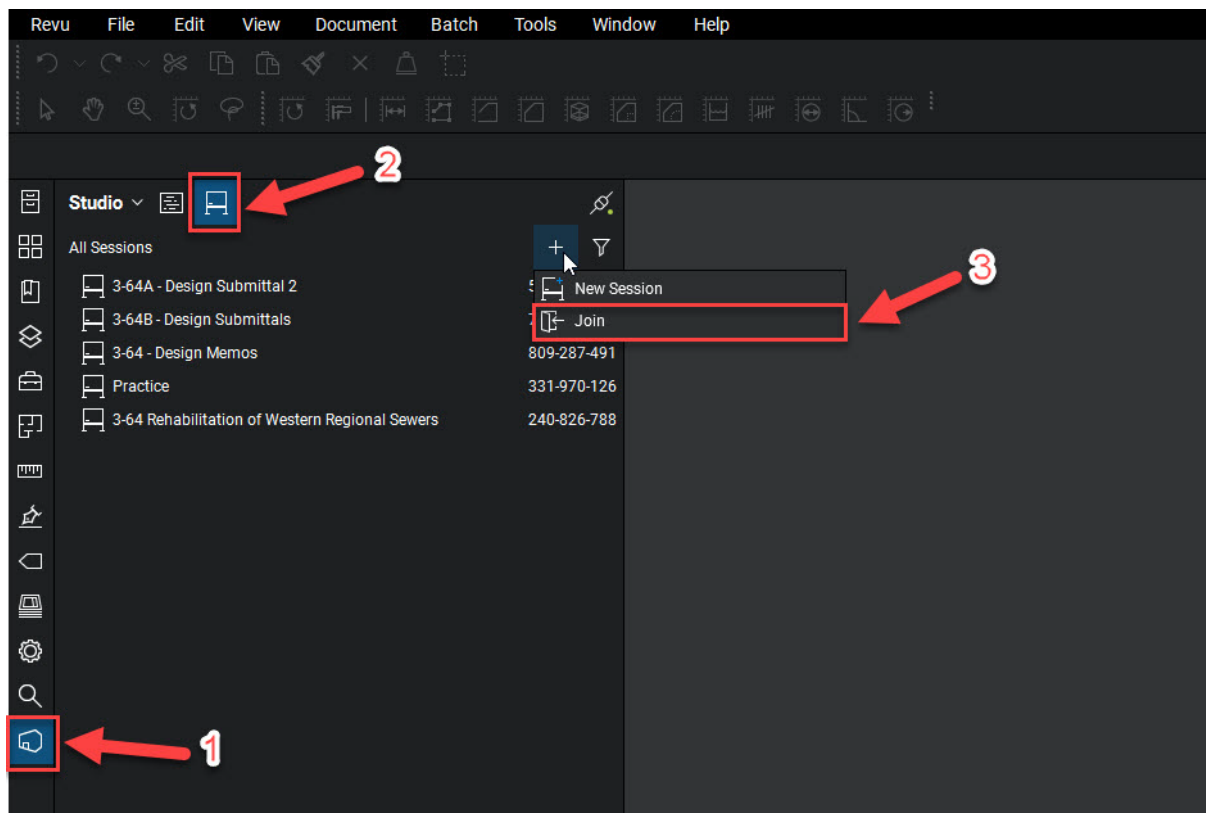
E. Return to Bluebeam Software

1. Log out

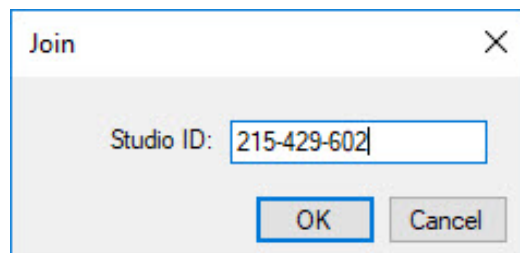
15.3 JOIN DEMO SESSION

A. Join Session:

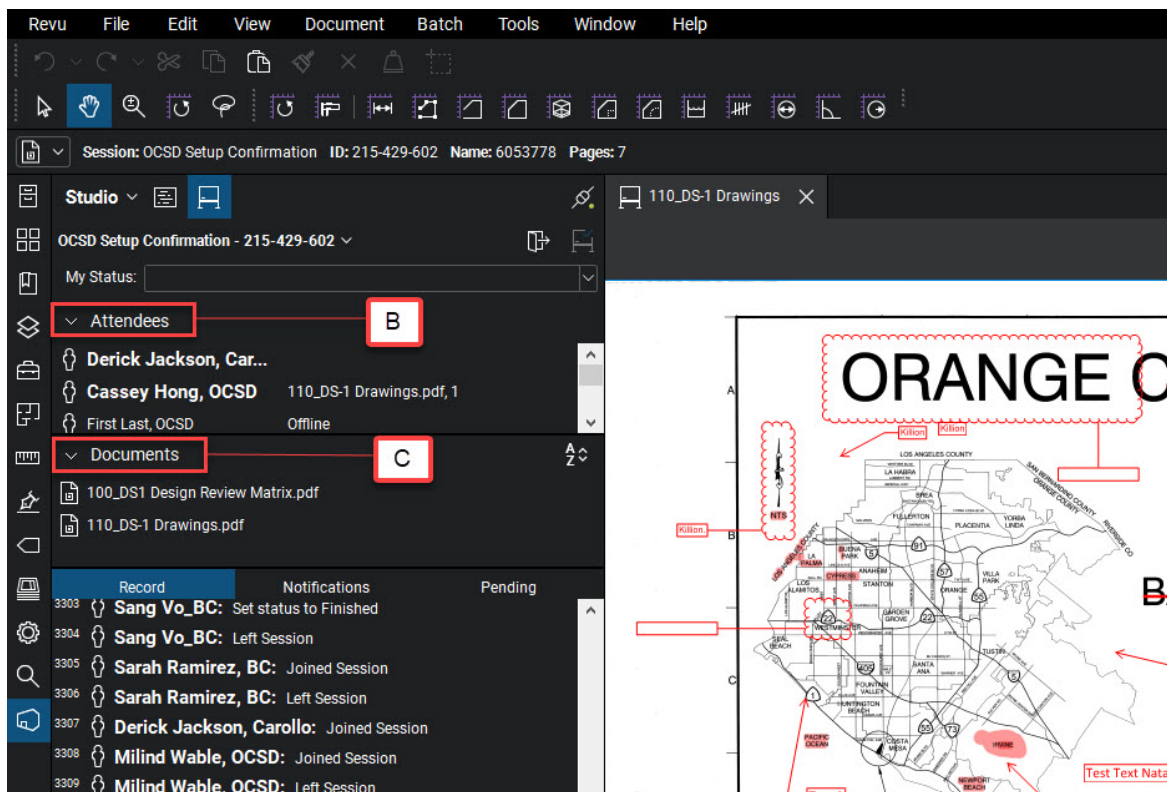
1. Click Studio (lower left)
2. Click Sessions
3. Click Join



4. A test studio session will be created by the PE; therefore, you will most likely receive the studio session ID number in an email invite.

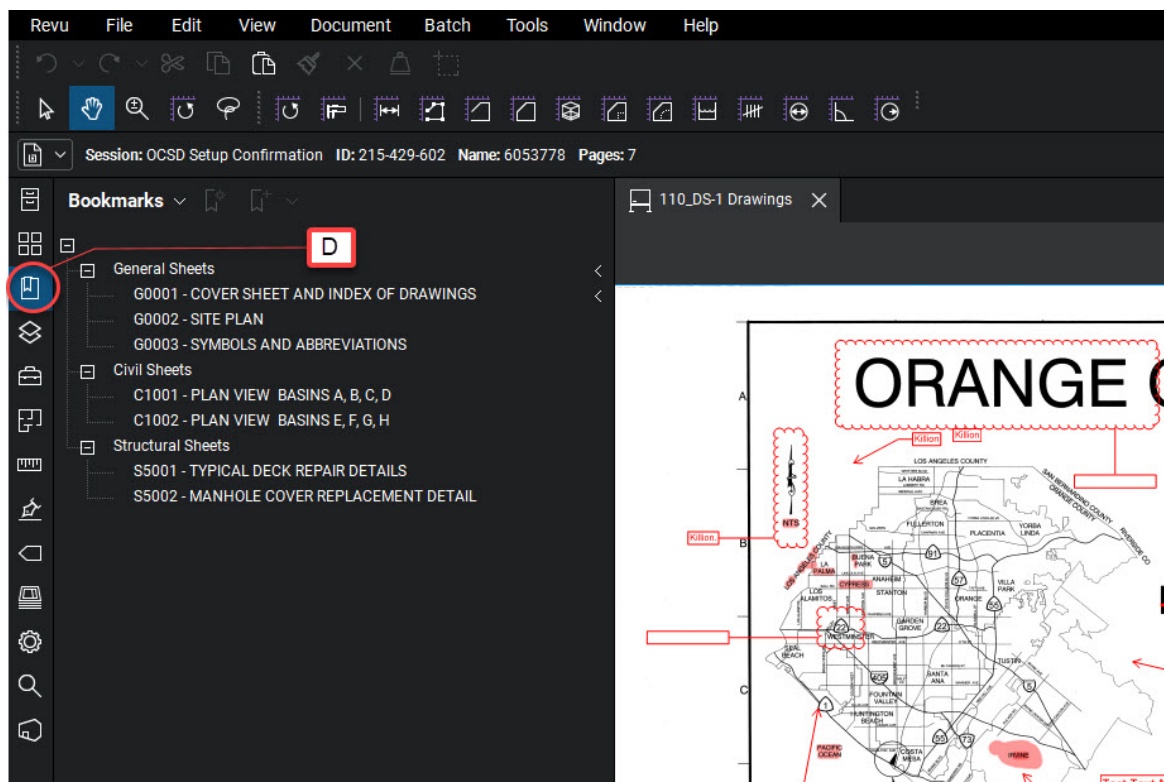


- B. Check that naming convention is correct under "Attendees"
 - 1. First Last, Company
- C. Open test document listed under "Documents"
 - 1. 110_DS1 Drawings.pdf



D. View Bookmarks

1. Located under the blue ribbon tab
2. Select a Page



15.4 BACKCHECK PROCESS

15.4.1 GENERAL

A. OC SAN is using BlueBeam to provide and reconcile design review comments. To facilitate design reviews, OC SAN developed a custom Status Menu that is dividend into 4 parts:

1. #####DESIGNER REPLY#####
2. *****OC SAN RECONCILIATION OF DISAGREE / FLAG COMMENTS*****
3. #####DESIGNER INCORPORATION IN NEXT SUBMITTAL#####
4. *****OC SAN BACKCHECK*****

B. The Designer is responsible for providing responses to comments and confirming that comment has been addressed in a future submittal (parts 1 and 3 above) via the Status Menu. The Status Menu is explained in more detail in the following section. See the complete status menu below.

#####DESIGNER REPLY#####

AGREE (will incorporate)
DISAGREE (per reply)
FLAG FOR DISCUSSION (per reply)
QUESTION ANSWERED (per reply)

*****OC SAN RECONCILIATION OF DISAGREE / FLAG COMMENTS*****

INCORPORATE COMMENT
DO NOT INCORPORATE (per reply)

#####DESIGNER INCORPORATION IN NEXT SUBMITTAL#####

INCORPORATED
NOT INCORPORATED (per reply)

*****OC SAN BACKCHECK*****

OPEN
CLOSED

15.4.2 ##### DESIGNER REPLY

A. After the OC SAN design submittal review period is over, the Designer will review and respond to all OC SAN reviewer comments using the Status Menu built into the BlueBeam studio session.

B. Setting the Status: Set the status with the Set Status command or by double-clicking in the Status field to bring up the Status Menu.

C. Replying to an OC SAN Reviewer Comment: Right-click the comment and click Reply. This will create a child record under the parent comment. Provide an explanation in the child record. Note: BlueBeam only allows the original author to edit their comment. Comments are annotated by creating child records. The only exception to this rule is the Status field. Always status the parent comment.

1. AGREE (will incorporate)

- a. Designer agrees with the comment and will incorporate the comment in a future submittal. AGREE means 100% agreement and the Designer understands how to incorporate comment without further discussion or OC SAN reviewer involvement.
 - b. If agreement is less than 100% or the Designer is unsure how to completely address comment, choose FLAG FOR DISCUSSION.
 - c. The assumption is AGREE means the Designer will incorporate the comment in a future submittal. The OC SAN reviewer does NOT need to change the status of AGREE to INCORPORATE COMMENT because this direction is understood.
 - d. Agreeing to a comment turns the comment from **red** to **green**.
2. DISAGREE (per reply)
 - a. Designer does not agree with the comment. The comment is understood by the Designer to be incorrect.
 - b. Provide an explanation for the DISAGREE.
 - c. The comment stays **red** and future reconciliation with the OC SAN reviewer is required. As a top priority, the OC SAN reviewer will filter DISAGREE comments, review the Designer's response, and seek resolution with the designer.
 3. FLAG FOR DISCUSSION (per reply)
 - a. Designer needs more information or direction from OC SAN reviewer to act on the comment.
 - b. For example, Designer understands the comment to be out of scope or is in conflict with a previous project decision so addressing the comment requires group discussion or PE/PM direction.
 - c. Reserve FLAG FOR DISCUSSION for comments that require additional discussion with the OC SAN reviewer, PE/PM involvement, or group discussion during a validation workshop.
 - d. Because not all flagged comments can be efficiently discussed in group workshops, the OC SAN reviewer and Designer should attempt to resolve FLAG FOR DISCUSSION comments prior to group discussion. Limit the validation workshop(s) to comments that require group discussion.
 - e. Flagging a comment turns the comment from **red** to **blue**.
 4. QUESTION ANSWERED (per reply)
 - a. If OC SAN reviewer provides a comment that does not provide direction about the required design change, such as noting a problem or asking a question, set status to QUESTION ANSWERED and reply to comment.
 - (1) The assumption here is a question needs an answer; however, a comment in the form of a question does not necessarily provide the Designer with clear direction. The Designer's response could lead to additional discussion and direction later, but the responsibility is on the OC SAN reviewer to take the next step, if needed, after reading the response.
 - b. The comment stays **red** and future reconciliation with the OC SAN reviewer is required.
 - c. If the OC SAN reviewer is satisfied with the reply and no further action is needed, CLOSE the comment.
 - d. If action is needed, call the Designer and explain the needed action. The OC SAN reviewer should document the discussion in BlueBeam with the Reply command. The response should provide clear direction to the Designer and document the date of discussion. Change the status to INCORPORATE COMMENT.

15.4.3 *****OC SAN RECONCILIATION OF DISAGREE / FLAG COMMENTS*****

- A. No action is needed on comments flagged AGREE because the Designer is going to incorporate the comment in a future submittal.
- B. Review the Designer's response to comments flagged QUESTION ANSWERED. Take the needed action if the Designer's answer to question triggers a next step; otherwise, CLOSE the comment.
- C. If Designer disagrees, and if OC SAN is satisfied with the Designer's response, no action is needed. If OC SAN is not satisfied with the Designer's response, then OC SAN and Designer need to meet to resolve the comment.
- D. If Designer flags a comment for discussion, OC SAN and Designer need to meet to resolve the comment. The goal of this step is to provide Designer with direction on how to proceed with each flagged/disagree comment.
- E. Comment reconciliation can take many forms (phone, meeting, and workshop) but should always involve direct communication with OC SAN reviewer and Designer.
- F. Once direction is provided for each comment, comment reconciliation is complete. The assumption is the Designer has the necessary direction to incorporate OC SAN reviewer comments with the status of AGREE or INCORPORATE COMMENT.

1. INCORPORATE COMMENT

- a. After discussion, OC SAN states the comment must be incorporated.
- b. The Designer does not have to go back and correct a previous DISAGREE or FLAG FOR DISCUSSION status. Setting the status to INCORPORATE COMMENT governs and overrides the previous status for filtering within BlueBeam.
- c. This status changes the comment to **green** consistent with the AGREE status.

2. DO NOT INCORPORATE (see reply)

- a. After discussion, OC SAN indicates the comment will not be incorporated. Provide response in the Comment field. This comment is now closed and no further action is required.
- b. This status changes the comment to **black** consistent with the CLOSED status.

15.4.4 #####DESIGNER INCORPORATION IN NEXT SUBMITTAL#####

- A. This step occurs during the Designer QA/QC of the next submittal.

1. INCORPORATED

- a. Prior to the next submittal, Designer indicates that the comment has been incorporated and it is ready for backcheck by OC SAN.
- b. All comments must have either an INCORPORATED or NOT INCORPORATED status prior to submitting next submittal.
- c. If the OC SAN reviewer's comment is INCORPORATED, but in a non-obvious way, please explain with the Reply command. The explanation is intended to help the OC SAN reviewer discover how their comment was incorporated by the Designer.
- d. The purpose of INCORPORATED is two-fold:
 - (1) It allows the OC SAN reviewer to filter comments that have the INCORPORATED status and disregard comments that have not been incorporated.
 - (2) It is also a QC step for the Designer to keep track of which comments have been addressed.
- e. This status changes the comment to **green** consistent with the AGREE status.

2. NOT INCORPORATED (see reply)

- a. This status is for deferring a comment to a future submittal. This status means the comment has NOT been incorporated into the next submittal. Presumably, the reason for deferral has been discussed by Designer and OC SAN and is memorialized with an explanation using Reply.
- b. All comments shall be addressed by IFB but preferably by FDS.
- c. This status turns the comment **red**.

15.4.5 *****OC SAN BACKCHECK*****

A. When OC SAN receives the revised submittal, as a first priority, the reviewer will check that their INCORPORATED comments have been addressed by the Designer and status them OPEN or CLOSED.

1. OPEN

- a. Comment has not been incorporated.
- b. OC SAN reviewer does not agree with how the comment was incorporated.
- c. In both cases, discuss the shortfall with the Designer and document the resolution as a Reply. Escalate to the PE if agreement cannot be reached with Designer.
 - (1) Alert Designer to keep track of OPEN comment(s) in prior submittal(s).
- d. This status turns the comment **red**.

2. CLOSED

- a. Comment has been incorporated by Designer.
- b. This status turns the comment **black**.

15.5 FILTER COMMENTS

A. Click the Filter button to activate the filter feature. Go to any column, select the down arrow to filter and sort as desired. Filtering is used to target a particular status or author. Search for “Using and Creating Filters in the Markups List” for more information.

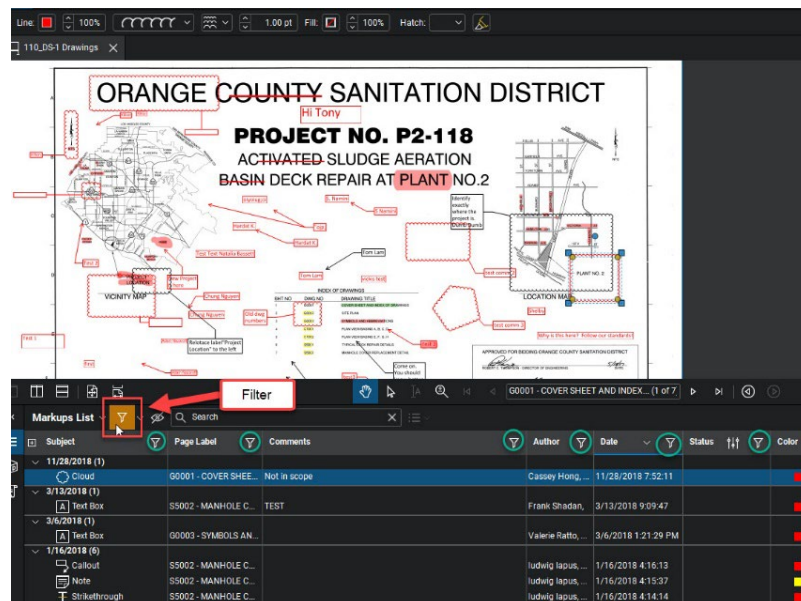


EXHIBIT 17

OC SAN ENGINEERING DESIGN GUIDELINES AND STANDARDS

Available Online at:

<https://www.ocsan.gov/document-center/>

EXHIBIT 18

PROJECT CONTROL MANAGEMENT SYSTEM

Project Control Management System

SOW Exhibit 18 – PMWeb



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EXHIBIT 18 – PROJECT CONTROL MANAGEMENT SYSTEM - PMWEB

18.1 PCSA, PDSA, AND TASK ORDERS – PROJECT CONTROL MANAGEMENT SYSTEM

18.1.1 PMWEB PROCEDURES

A. This Agreement shall utilize PMWeb as the Project Control Management System (PCMS) for overall management of the Agreement. All PCMS related documents requiring formal signatures shall be digital, and all copies digitally distributed. The PCMS conforms to the requirements set forth in California Government Code section 16.5 regarding digital signatures; therefore, digital signatures are in full force and effect and are legally the same as a hand-written signature. At least one PCMS account shall have the authority to approve Amendments.

B. OC SAN shall maintain the PCMS and serve as the administrator for the duration of this Agreement. OC SAN will provide the CONSULTANT with user access for approved personnel as needed for the duration of the Agreement. OC SAN shall control access to the PCMS by assigning user profiles and login credentials. Notify OC San of any changes to personnel. Access modifications shall be coordinated as needed throughout the Agreement. Do not to share PCMS account passwords with anyone inside or outside of the company.

C. Routine maintenance of the PCMS system may be required during the Agreement. Access to the PCMS system may be restricted or unavailable at these times and will be scheduled outside of typical working hours whenever possible.

D. The PCMS is a web-based environment and is therefore subject to the inherent speed and connectivity problems of the Internet. The CONSULTANT is responsible for its own connectivity to the Internet. PCMS response time is dependent on the CONSULTANT's equipment, including processor speed, Internet access speed, Internet traffic, etc.

E. OC SAN will not be liable for any delays associated with the utilization of the PCMS including: slow response time, down time periods, connectivity problems, or loss of information.

F. OC SAN will provide a one-time free training session of up to two (2) hours to train CONSULTANT's designated staff on general system requirements, procedures, and methods.

G. Automated system notifications generated via PCMS (e.g., in-system notices, system generated email, or email with attachment) shall constitute a formal written notification in compliance with the Professional Design Service Agreement (PDSA), Professional Construction Service Agreement (PCSA), or Task Order (TO) Agreement.

18.2 PMWEB SCHEDULE OF SUBMITTALS

18.2.1 PM WEB SCHEDULE OF SUBMITTALS

A. PMWeb is used to manage communication with the Contractor, including submittal review. OC SAN has standardized on a Schedule of Submittals to provide uniformity between projects, support a commissioning dashboard, and ensure that submittals are properly retained per the Record Retention Policy. OC SAN has developed an Excel template based on our master specifications.

B. OC SAN will provide a PMWeb Master Schedule of Submittals template that includes the submittals required by OC SAN's Master Specifications. The CONSULTANT shall not deviate from the Master PMWeb Schedule of Submittals, except as required by the project specifications. The CONSULTANT shall develop submittal items for specifications that are not part of OC SAN's Master Specifications.

- C. After the CONSULTANT has developed the Schedule of Submittals, it will be provided to the Resident Engineer and the Contractor to finalize before submittals are loaded into PMWeb.
- D. Submittals will be loaded into PMWeb based on the package (general construction, safety, and commissioning packages) and commissioning phase.

18.2.2 CONSULTANT TRAINING

- A. OC SAN will provide a 1-hour virtual training on the use of the PMWeb Master Schedule of Submittals.

18.2.3 CONSULTANT PROCEDURES

- A. The CONSULTANT shall review each project specification and complete the Schedule of Submittal Template as follows:
 - 1. Enter the list of project specifications.
 - 2. Enter the list of commissioning packages. Commissioning packages are defined by Section 01810, Commissioning.
- B. Enter the following information for each submittal item:
 - 1. Specification section: enter the specification section requiring the submittal.
 - 2. Submittal Item description: enter the description of the submittal. Submittal items that refer to multiple specifications shall include referenced specification sections in brackets.
 - 3. Comments: enter notes, comments, or clarifications. This field is optional.
 - 4. Commissioning package: enter the commissioning package of the submittal item. Submittal items shall be duplicated when the same submittal is required for multiple commissioning packages. Items shall be separated into mobilization, general construction, or a commissioning package defined by the project specifications.
 - 5. Phase: Identify which phase each submittal is required to be approved.
 - 6. Retention: Specify if the submittal is a Project File or Facility Record based on OC SAN's Records Retention Policy.
 - 7. Lead time: Specify the appropriate number of workdays that OC SAN has to review the particular submittal.
 - 8. Load: Specify if the submittal should be loaded into PMWeb prior to NTP, upon contractor approval, or prior to the start of commissioning.

18.2.4 SCHEDULE

- A. The CONSULTANT shall populate, receive comments, address comments, and provide completed Schedule of Submittals as follows:
 - 1. 20 workdays after advertisement date.

Attachments:

A – Master PMWeb Schedule of Submittals

PROJECT NAME AND NUMBER								
Attachment A - Scope of Work								
Exhibit 18 - Master Constrution Submittal Items List								
Selector	Item Description	Comments	Commissioning Package	Phase	Lead Time	Load	Retention	Record Series
01-01120-Work Sequence	Sequence of Construction Plan		Mobilization	4.0 - General	25	1 - Prior to NTP	Project File	Engineering Project File
01-01140-Work Restrictions	Construction Plan for Each Tie-in	Quantity as required.	General Construction	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
01-01150-Permits	[CA] Cal/OSHA Excavation Permit		General Construction	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
01-01150-Permits	City Haul Route Permit		General Construction	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
01-01150-Permits	Application for Authorization to Discharge		General Construction	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
01-01150-Permits	SCAQMD Rule 1403 Asbestos Nofication Forms		General Construction	4.0 - General	25	2 - Upon Contractor Approval	Facility Record	Facility Permits
01-01150-Permits	Cal/OSHA Asbestos Notification		General Construction	4.0 - General	25	2 - Upon Contractor Approval	Facility Record	Facility Permits
01-01150-Permits	Cal/OSHA Lead-Work Pre-Job Notification		General Construction	4.0 - General	25	2 - Upon Contractor Approval	Facility Record	Facility Permits
01-01150-Permits	City Building Permits	Quantity as required.	General Construction	4.0 - General	25	2 - Upon Contractor Approval	Facility Record	Facility Permits
01-01150-Permits	City Inspection Sign-Offs		General Construction	4.0 - General	25	2 - Upon Contractor Approval	Facility Record	Facility Permits
01-01150-Permits	Oil Production Well Abandonment Permit		General Construction	4.0 - General	25	2 - Upon Contractor Approval	Facility Record	Facility Permits
01-01150-Permits	{NTS: List required project permits}		General Construction	4.0 - General	25	2 - Upon Contractor Approval	Facility Record	Facility Permits
01-01155-Measurement and Payment	Mobilization Plan		Mobilization	4.0 - General	25	1 - Prior to NTP	Project File	Engineering Project File
01-01155-Measurement and Payment	Site Specific Safety Plan		Mobilization	4.0 - General	25	1 - Prior to NTP	Project File	Engineering Project File
01-01155-Measurement and Payment	Resumes, Proof of Certifications and Licenses, and Emergency Contact Info		Mobilization	4.0 - General	25	1 - Prior to NTP	Project File	Engineering Project File
01-01155-Measurement and Payment	Permits and List of Licenses	Should permits be rem	Mobilization	4.0 - General	25	1 - Prior to NTP	Project File	Engineering Project File
01-01155-Measurement and Payment	[02270] Stormwater Project Risk Determination (PRD)		Mobilization	4.0 - General	25	1 - Prior to NTP	Project File	Engineering Project File
01-01155-Measurement and Payment	Contractor's Quality Control Plan		Mobilization	4.0 - General	25	1 - Prior to NTP	Project File	Engineering Project File
01-01155-Measurement and Payment	Contractor's Inspection and Test Plan		Mobilization	4.0 - General	25	1 - Prior to NTP	Project File	Engineering Project File
01-01155-Measurement and Payment	Demobilization Plan		General Construction	4.6 - Substantial Completion	25	2 - Upon Contractor Approval	Project File	Engineering Project File
01-01300-Contractor's Construction Schedule and Reports	Construction Scheduler Qualifications	For large projects.	Mobilization	4.0 - General	25	1 - Prior to NTP	Project File	Engineering Project File
01-01300-Contractor's Construction Schedule and Reports	Work Plan, Work Breakdown Structure, and Construction Schedule Method	For large projects.	Mobilization	4.0 - General	25	1 - Prior to NTP	Project File	Engineering Project File
01-01300-Contractor's Construction Schedule and Reports	Interim Construction Schedule	For large projects.	Mobilization	4.0 - General	25	1 - Prior to NTP	Project File	Engineering Project File
01-01300-Contractor's Construction Schedule and Reports	Draft Work Plan and Baseline Construction Schedule	For large projects.	Mobilization	4.0 - General	25	1 - Prior to NTP	Project File	Engineering Project File
01-01300-Contractor's Construction Schedule and Reports	Final Work Plan and Baseline Construction Schedule	For large projects.	Mobilization	4.0 - General	25	1 - Prior to NTP	Project File	Engineering Project File
01-01300-Contractor's Construction Schedule and Reports	Conformed Work Plan and Baseline Construction Schedule	For large projects.	General Construction	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
01-01300-Contractor's Construction Schedule and Reports	Three-Week Look-Ahead Schedule	For large projects. Mul	General Construction	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
01-01300-Contractor's Construction Schedule and Reports	Construction Schedule and Report Monthly Updates	For large projects. Ent	General Construction	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
01-01300-Contractor's Construction Schedule and Reports	Price Breakdown Structure	For large projects.	General Construction	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
01-01300-Contractor's Construction Schedule and Reports	Schedule of Submittals	For large projects.	General Construction	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
01-01300-Contractor's Construction Schedule and Reports	Baseline Construction Schedule and Baseline Narrative Work Plan	For small projects	Mobilization	4.0 - General	25	1 - Prior to NTP	Project File	Engineering Project File
01-01300-Contractor's Construction Schedule and Reports	Updated Construction Schedule and Baseline Narrative Work Plan	For small projects. Ent	General Construction	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
01-01300-Contractor's Construction Schedule and Reports	As-Built Schedule	For small projects	General Construction	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
01-01300-Contractor's Construction Schedule and Reports	Three-Week Look-Ahead Schedule	Required? For small pr	General Construction	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
01-01332-Seismic Design Criteria	[01332] Seismic Dwgs, Calcs and Certification	No submittal requirem	TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
01-01510-Traffic Control	Contractor Qualifications		General Construction		25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
01-01600-Shipping, Storage, and Handling	Preservation Checklist Template Form		TBD	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
01-01600-Shipping, Storage, and Handling	Monthly Inspection Logs		General Construction	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
01-01600-Shipping, Storage, and Handling	Shipping, Materials and Vibration Monitoring Equipment		General Construction	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
01-01600-Shipping, Storage, and Handling	Storage Instructions and Work Plan		General Construction	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
01-01701-Project Control Management System (PCMS)	Contractor's PCMS Personnel		General Construction	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
01-01701-Project Control Management System (PCMS)	Schedule of Submittals		Mobilization	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
01-01783-Equipment Service Manuals	[01783] Draft Individual ESM	Master list only. Includ	TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
01-01783-Equipment Service Manuals	[01783] Final Individual ESM	Master list only. Includ	TBD	4.2 - Pre-ORT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
01-01783-Equipment Service Manuals	[01783] As-Built Individual ESM	Master list only. Includ	TBD	4.5 - Beneficial Occupancy	25	3 - Prior to Start of Commissioni	Facility Record	ESM
01-01788-Equipment and Instrument Database (EID)	Draft EID	Required for each pack	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	EID
01-01788-Equipment and Instrument Database (EID)	Final EID	Required for each pack	1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	EID
01-01810-Commissioning	Commissioning Staff Resumes	Required for 1st packa	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
01-01810-Commissioning	[01810] Mfr Service Rep Qualifications	Master list only. Includ	TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
01-01810-Commissioning	[01810] COPI	Master list only. Includ	TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
01-01810-Commissioning	[01810] FDT Plan and Procedures	Master list only. Includ	TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
01-01810-Commissioning	[01810] Completed FDT1 (Unwitnessed) Documents	Master list only. Includ	TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
01-01810-Commissioning	Calibration Technician Qualifications	Submittal quantity as r	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
01-01810-Commissioning	Sample Field Calibration Forms	Required for 1st packa	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
01-01810-Commissioning	Field Calibration Test Equip Documentation	For each equipment ar	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
01-01810-Commissioning	Sample Tracking Spreadsheets	Required for 1st packa	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
01-01810-Commissioning	Commissioning Overview	Required for each pack	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
01-01810-Commissioning	Commissioning Plan	Required for each pack	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
01-01810-Commissioning	LOTO Procedures and Tracking List	Required for each pack	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
						Legend		
						Item that may change		
						[XXXXX] Item submitted under different section		
						[XXXXX] Items specified elsewhere submitted under this section		
						Items with questions		

PROJECT NAME AND NUMBER

Attachment A - Scope of Work

Exhibit 18 - Master Constrution Submittal Items List

01-01810-Commissioning	480V and Above Conductor Testing and Tracking List	Required for each pack 1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Test Results
01-01810-Commissioning	Instr, Control, and Alarm Circuit Conductor Testing and Tracking List	Required for each pack 1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Test Results
01-01810-Commissioning	Signed Off Loop Drawings and Tracking List	Required for each pack 1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Engineering Drawing
01-01810-Commissioning	Field Calibration Test Results and Tracking List	Required for each pack 1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Test Results
01-01810-Commissioning	Vendor Package Field Calibration Test Results and Tracking List	Required for each pack 1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Test Results
01-01810-Commissioning	Permission to Energize Completed Forms	Required for each pack 1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
01-01810-Commissioning	Pre-Commissioning Completion Letter	Required for each pack 1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
01-01810-Commissioning	Commissioning Phase 1 Pre-ORT Completion Letter	Required for each pack 1st package to be commissioned	4.2 - Pre-ORT	25	3 - Prior to Start of Commissioning	Project File	Engineering Project File
01-01810-Commissioning	Commissioning Phase 2 ORT and FAT Completion Letter	Required for each pack 1st package to be commissioned	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioning	Project File	Engineering Project File
01-01810-Commissioning	Commissioning Phase 3 RAT Completion Letter	Required for each pack 1st package to be commissioned	4.4 - RAT	25	3 - Prior to Start of Commissioning	Project File	Engineering Project File
01-01810-Commissioning	[01810] Pre-Commissioning Electronic Configuration Files and Tracking List	Master list only. Include	TBD 4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
01-01810-Commissioning	[01810] ORT and FAT Electronic Configuration Files and Tracking List	Master list only. Include	TBD 4.3 - ORT-FAT	25	3 - Prior to Start of Commissioning	Project File	Engineering Project File
01-01810-Commissioning	[01810] COPO	Master list only. Include	TBD 4.4 - RAT	25	3 - Prior to Start of Commissioning	Project File	Engineering Project File
01-01810-Commissioning	[01810] Completed FDT2 (Witnessed) Documents	Master list only. Include	TBD 4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Test Results
01-01810-Commissioning	[17010] Factory Electronic Configuration Files and Tracking List	Master list only. Include	TBD 4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
01-01810-Commissioning	[01810] RAT Electronic Configuration Files and Tracking List	Master list only. Include	TBD 4.4 - RAT	25	3 - Prior to Start of Commissioning	Facility Record	Electronic Config Files
01-01810-Commissioning	Redline Drawings	Required for each pack 1st package to be commissioned	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioning	Facility Record	As-Builts
01-01810-Commissioning	Completed Pre-ORT Procedures and Tracking Log	Required for each pack 1st package to be commissioned	4.2 - Pre-ORT	25	3 - Prior to Start of Commissioning	Facility Record	Test Results
01-01810-Commissioning	Completed ORT, Pre-FAT and FAT Procedures and Pre-FAT Tracking Log	Required for each pack 1st package to be commissioned	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioning	Facility Record	Test Results
01-01810-Commissioning	Completed RAT Procedures	Required for each pack 1st package to be commissioned	4.4 - RAT	25	3 - Prior to Start of Commissioning	Facility Record	Test Results
01-01820-Training of OC San Personnel	Overall Training Plan	Required for first affected 1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
01-01820-Training of OC San Personnel	Video Recording Personnel Qualifications	Required for first affected 1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
01-01820-Training of OC San Personnel	[01820] Training - Lesson Plans and Trainer Quads	Master list only. Include	TBD 4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
01-01820-Training of OC San Personnel	[01820] Training - Material Prior to Sessions	Master list only. Include	TBD 4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
01-01820-Training of OC San Personnel	[01820] Training - Material Used in Sessions	Master list only. Include	TBD 4.3 - ORT-FAT	25	3 - Prior to Start of Commissioning	Facility Record	Training Materials
01-01820-Training of OC San Personnel	[01820] Videos of Training Sessions	Master list only. Include	TBD 4.3 - ORT-FAT	25	3 - Prior to Start of Commissioning	Facility Record	Training Materials
01-01900-Hazardous Materials Mitigation and Controls	Hazardous Waste Management Plan	Associate with first affected 1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
01-01900-Hazardous Materials Mitigation and Controls	Asbestos Abatement Plan	Associate with first affected 1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
01-01900-Hazardous Materials Mitigation and Controls	Lead Abatement Plan	Associate with first affected 1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
01-01900-Hazardous Materials Mitigation and Controls	Final Documentation	Associate with first affected 1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
01-01900-Hazardous Materials Mitigation and Controls	Contractor Qualifications	Associate with first affected 1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
01-01900-Hazardous Materials Mitigation and Controls	Work Related Documentation (reports, notifications, forms, permits, etc.)	Associate with first affected 1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
01-01900-Hazardous Materials Mitigation and Controls	Work Shift Sampling Reports	Associate with first affected 1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Industrial Hygiene & Safety
01-01950-Mold Remediation and Controls	Mold Remediation Plan	Associate with first affected 1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
01-01950-Mold Remediation and Controls	Work Related Documentation (reports, notifications, forms, permits, etc.)	Associate with first affected 1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
01-01950-Mold Remediation and Controls	Work Shift Sampling Reports	Associate with first affected 1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Industrial Hygiene & Safety
01-01950-Mold Remediation and Controls	Final Documentation	Associate with first affected 1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
02-02050-Demolition	[CA] Demolition Schedule	Associate with first affected 1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02050-Demolition	Dust Control Plan	Associate with first affected 1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02110-Clearing Grubbing and Stripping	Schedule	Associate with first affected 1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02110-Clearing Grubbing and Stripping	Detailed plan	Associate with first affected 1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02164-Earth Anchors	Contractor Qualifications	Associate with first affected 1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02164-Earth Anchors	Anchor Test Procedures	Associate with first affected 1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02164-Earth Anchors	Product Data, Detailed Drawings and Installation Drawings	Associate with first affected 1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
02-02164-Earth Anchors	Grout Mix Design and Procedures	Associate with first affected 1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
02-02164-Earth Anchors	Grout Strength Test Results	Associate with first affected 1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
02-02164-Earth Anchors	Steel Tendons Mill Certifications	Associate with first affected 1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
02-02164-Earth Anchors	Anchor Test Results	Associate with first affected 1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
02-02164-Earth Anchors	Earth Anchors As-built Drawings	Associate with first affected 1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	As-Builts
02-02200-Earthwork	Fill Material Samples	Associate with first affected 1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02200-Earthwork	Contractor Certifications	Associate with first affected 1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02200-Earthwork	[[02490] Vibration and Settlement Monitoring]	Delete if you do not have	TBD 4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02200-Earthwork	[CA] Excavation Plan	Associate with first affected General Construction	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02200-Earthwork	Odor Control - Malodorous Mitigation Plan	Associate with first affected 1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02200-Earthwork	Contaminated Soil Mitigation Plan	Associate with first affected 1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02200-Earthwork	Abandonment of Ground Penetrations Procedures	Associate with first affected 1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02200-Earthwork	Product Data	Associate with first affected 1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
02-02210-Excavation Support and Protection	[CA] Shoring and Bracing Plan	Associate with first affected General Construction	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02210-Excavation Support and Protection	Shoring Monitoring Surveys	Associate with first affected 1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02210-Excavation Support and Protection	Shop Drawings	Associate with first affected 1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
02-02210-Excavation Support and Protection	Qualifications	Associate with first affected 1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File

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Attachment A - Scope of Work
Exhibit 18 - Master Constrution Submittal Items List

02-02220-Dewatering	Groundwater Control Plan (GWCP)	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02220-Dewatering	Field QC Rpts-Gravel Pack Mat. Cert.	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02220-Dewatering	Field QC Rpts-Flow Meter Calibration	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02220-Dewatering	Field QC Rpts-Driller's logs	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02220-Dewatering	Field QC Rpts-Draft Well Logs and Core Samples	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02220-Dewatering	Field QC Rpts-Docs of daily flow records	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02220-Dewatering	Field QC Rpts-Monitoring Records (sand, TSS, TTO, etc.)	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02220-Dewatering	Dewatering to MS4 System - RWQCB Disch. Permit Docs	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02220-Dewatering	Permits and Letters from Authorities Having Jurisdiction	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02220-Dewatering	Abandonment of Well Points, Wells and Ground Penetrations - Documents	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Construction Specialty
02-02251-Controlled Low-Strength Material	Material List, Mnf. Data Mix Design & Certs.	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
02-02251-Controlled Low-Strength Material	Methods of Measurements	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02270-Stormwater Pollution Prevention Plan	Pre-SWPPP - Area of Disturbance, Rainfall Erosivity Waiver, Risk Determina	Associate with first aff General Construction	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02270-Stormwater Pollution Prevention Plan	SMARTS User ID	Associate with first aff General Construction	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02270-Stormwater Pollution Prevention Plan	Project Specific SWPPP, Maps and Photos	Associate with first aff General Construction	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02270-Stormwater Pollution Prevention Plan	Contractor Certifications	Associate with first aff General Construction	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02270-Stormwater Pollution Prevention Plan	Project Completion Documentation	Associate with first aff General Construction	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02271-Stormwater Pollution Control Plan	Project Specific SWPCP and Maps	Associate with first aff General Construction	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02278-Abandonment of Pipe and Structures	Methods, Material and Procedures	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02490-Settlement and Vibration Monitoring	Shop Drawings and Earthwork Monitoring Plan	No master spec. Use J-	TBD 4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02490-Settlement and Vibration Monitoring	Earthwork Monitoring Records	No master spec. Use J-	TBD 4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02529-Sitework Concrete	Placement Shop Drawings	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
02-02529-Sitework Concrete	Product Data	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
02-02531-Cured in Place Pipe	Performance Work Statement	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02531-Cured in Place Pipe	Pre-Installation Videos	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02531-Cured in Place Pipe	Product Data	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
02-02531-Cured in Place Pipe	As-Built Drawings	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	As-Built
02-02531-Cured in Place Pipe	Post-Installation Videos	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Construction Specialty
02-02539-Site Sanitary Sewer Lines (Lateral)	Site Drawings	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
02-02550-Asphalt Concrete Pavement	Pavement Sequencing Plan	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02550-Asphalt Concrete Pavement	Slurry Seal Plan	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02550-Asphalt Concrete Pavement	Materials Certs of Compliance	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02550-Asphalt Concrete Pavement	Contractor's Paving Experience References	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02550-Asphalt Concrete Pavement	Product Data	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
02-02550-Asphalt Concrete Pavement	Job Mix Formula	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
02-02616-Lined Reinforced Concrete Pipe	Shop Drawings and Product Data	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
02-02616-Lined Reinforced Concrete Pipe	Design Calcs	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
02-02616-Lined Reinforced Concrete Pipe	Pipe-Laying Diagrams	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
02-02617-Reinforced Concrete Pipe	Shop Drawings and Product Data	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
02-02618-Reinforced Concrete Pressure Pipe-without Cylinder	Certified Affidavit of Compliance	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02618-Reinforced Concrete Pressure Pipe-without Cylinder	Steam-Cured Pipe Recordings	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02618-Reinforced Concrete Pressure Pipe-without Cylinder	Shop Drawings and Product Data	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
02-02618-Reinforced Concrete Pressure Pipe-without Cylinder	Laying Diagrams	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
02-02618-Reinforced Concrete Pressure Pipe-without Cylinder	Manufacturer Test Reports	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
02-02620-Reinforced Concrete Cylinder pipe	Certified Affidavit of Compliance	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02620-Reinforced Concrete Cylinder pipe	Contractor Welder Qualifications	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02620-Reinforced Concrete Cylinder pipe	Shop Drawings and Product Data	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
02-02620-Reinforced Concrete Cylinder pipe	Line Layout and Marking Diagrams	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
02-02622-Vitrified Clay Pipe	Certified Affidavit of Compliance	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02622-Vitrified Clay Pipe	Product Data	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
02-02624-Existing Utilities	Sand Slurry Methods and Procedures	Contractor to include i	1st package to be commissi	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02640-Fiberglass Reinforced Sewer Pipe	References of Pipe Performance History	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02640-Fiberglass Reinforced Sewer Pipe	Manuf.'s Material Handling, Installation and Repair Req.	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02640-Fiberglass Reinforced Sewer Pipe	Contractor's Installation Certification	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02640-Fiberglass Reinforced Sewer Pipe	Factory Qualifications	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02640-Fiberglass Reinforced Sewer Pipe	Factory Witnessed Testing Submittals	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02640-Fiberglass Reinforced Sewer Pipe	Shop Drawings and Product Data	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
02-02640-Fiberglass Reinforced Sewer Pipe	Pipe-Laying Diagrams	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
02-02640-Fiberglass Reinforced Sewer Pipe	Manuf. Certs and Test Reports	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
02-02649-High Density Polyethylene Pipe	Joint and Fuson Welding	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02649-High Density Polyethylene Pipe	Qualifications	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File

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02-02649-High Density Polyethylene Pipe	Manufacturer Installation Manual	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02649-High Density Polyethylene Pipe	Measurements and QC Documentation	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02649-High Density Polyethylene Pipe	Shop Drawings	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
02-02666-Water Pipeline Testing and Disinfection	Testing Plans and Schedules	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02666-Water Pipeline Testing and Disinfection	Test Results	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02666-Water Pipeline Testing and Disinfection	Verification of Chlorine Disinfection	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02666-Water Pipeline Testing and Disinfection	Certifications for Personnel and Laboratory	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02667-Testing of Hydraulic Structures	Testing Plans and Schedules	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02667-Testing of Hydraulic Structures	Leak Repair Methods	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02726-Manhole and Precast Vault Construction	Manhole Vacuum Test Results	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02726-Manhole and Precast Vault Construction	Shop Drawings and Product Data	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
02-02730-Sanitary Sewer System Testing	Testing Plans and Schedules	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02737-Sewer System Condition Assessment	Sample Condition Assessment	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02737-Sewer System Condition Assessment	Contractor Qualifications	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02737-Sewer System Condition Assessment	Condition Assessment	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Collection System Condition Assessment
02-02810-Landscape Irrigation	Contractor Qualifications	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02810-Landscape Irrigation	[01783] Draft Individual ESM	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02810-Landscape Irrigation	[01783] Final Individual ESM	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02810-Landscape Irrigation	Irrigation Materials Product Data	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
02-02810-Landscape Irrigation	Controller Shop Drawings	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
02-02810-Landscape Irrigation	Irrigation Structure Shop Drawings	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
02-02810-Landscape Irrigation	As-Built Drawings	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	As-Built
02-02810-Landscape Irrigation	[01783] As-Built Individual ESM	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	ESM
02-02900-Landscaping	Material Delivery Certificates	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02900-Landscaping	Soil Reports	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02900-Landscaping	Certificates of Inspection	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02900-Landscaping	Plant Samples	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02900-Landscaping	OC Agricultural Clearance	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02900-Landscaping	Contractor Qualifications	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02999-Temporary Handling of Sewage Flow	Temp Handling of Flow Plan (THF)	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
02-02999-Temporary Handling of Sewage Flow	Spill Prev. and Countermeasure Plan (SPCCP)	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02999-Temporary Handling of Sewage Flow	Odor Assessment and Odor Control Plan (OAOCP)	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
02-02999-Temporary Handling of Sewage Flow	Spill Incident Report	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02999-Temporary Handling of Sewage Flow	Diesel Generator Set Requirements	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
02-02999-Temporary Handling of Sewage Flow	Contractors Qualifications	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02999-Temporary Handling of Sewage Flow	Plug Sequence Plan	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
02-02999-Temporary Handling of Sewage Flow	Product Data	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
03-03055-Epoxy Bonding Reinforcing Bars and Rods in Concrete	Mfr Past Project Experience	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
03-03055-Epoxy Bonding Reinforcing Bars and Rods in Concrete	Mfr's Cert of Contr.'s Field Personnel	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
03-03055-Epoxy Bonding Reinforcing Bars and Rods in Concrete	Special Inspection Procedures	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
03-03055-Epoxy Bonding Reinforcing Bars and Rods in Concrete	Product Data	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
03-03055-Epoxy Bonding Reinforcing Bars and Rods in Concrete	Mfr's Product Batch Cert	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
03-03055-Epoxy Bonding Reinforcing Bars and Rods in Concrete	Equip Service and Repair Manuals	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	ESM
03-03100-Concrete Formwork	Falsework Calcs, Drawings and Product Data	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
03-03200-Reinforcement Steel	Chair Samples	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
03-03200-Reinforcement Steel	Welding Procedures and Qualifications	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
03-03200-Reinforcement Steel	Welded Splice Samples	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
03-03200-Reinforcement Steel	Reinforcement Steel Mill Certification and Documentation	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
03-03200-Reinforcement Steel	Product Data	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
03-03200-Reinforcement Steel	Shop Drawings	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
03-03290-Joints in Concrete	Product Data - Waterstops and Samples	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
03-03290-Joints in Concrete	Product Data - Joint Sealant	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
03-03290-Joints in Concrete	Product Data - Preformed Expansion Joint Material	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
03-03290-Joints in Concrete	Manufacturer's Material Shipping Certification	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
03-03290-Joints in Concrete	5-Year Sealant Installation Warranty	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
03-03290-Joints in Concrete	Shop Drawings - Joint Location and Type	Optional spec item. Inc 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
03-03300-Cast-in-Place Concrete	Cold Weather Concreting Procedures	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
03-03300-Cast-in-Place Concrete	Rapid Drying Conditions - Corrective Measures	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
03-03300-Cast-in-Place Concrete	Sieve Analysis	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
03-03300-Cast-in-Place Concrete	Concrete Placement Sequence Plan [by area]	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
03-03300-Cast-in-Place Concrete	Curing Compound Product Data	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File

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03-03300-Cast-in-Place Concrete	Defective Concrete Repair Procedure	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
03-03300-Cast-in-Place Concrete	Pozzolan Cert of Compliance	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
03-03300-Cast-in-Place Concrete	Mixing Equipment Information	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
03-03300-Cast-in-Place Concrete	Drying Shrinkage Test Data	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
03-03300-Cast-in-Place Concrete	Class A Mix Design & Test Data	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
03-03300-Cast-in-Place Concrete	Class B Mix Design & Test Data	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
03-03300-Cast-in-Place Concrete	Class C Mix Design & Test Data	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
03-03300-Cast-in-Place Concrete	Class D Mix Design & Test Data	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
03-03300-Cast-in-Place Concrete	Class CE Mix Design & Test Data	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
03-03300-Cast-in-Place Concrete	Concrete Aggregates Lab Test Results	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
03-03300-Cast-in-Place Concrete	Repair Grout Mix Design	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
03-03300-Cast-in-Place Concrete	Composite Aggregate Mix Analysis	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
03-03300-Cast-in-Place Concrete	Cement Mill Test Results	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
03-03600-Grouts	Mfr's Local Rep Contact Information	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
03-03600-Grouts	COPI	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
03-03600-Grouts	Product Data, Installation Instructions and Certified Test Results	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
03-03600-Grouts	Warranty	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
03-03740-Concrete Structure Repair	Quality Control Test and Certification	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
03-03740-Concrete Structure Repair	Concrete Repair Method Test Panels	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
03-03740-Concrete Structure Repair	Product Data, Installation Instructions and Certs [per product]	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
05-05035-Anodic Finish Coatings	Color Range Samples	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
05-05035-Anodic Finish Coatings	Anodizer/Manufacturer's Certificate	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
05-05035-Anodic Finish Coatings	Qualifications	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
05-05120-Structural Steel	Certified Alloy Test Reports	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
05-05120-Structural Steel	Welder Certs	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
05-05120-Structural Steel	Shop Drawings and Coating Materials [by area]	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
05-05150-Aluminum Construction	Certified Alloy Test Reports	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
05-05150-Aluminum Construction	Welder Certs	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
05-05150-Aluminum Construction	Corrosion Protection Product Data	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
05-05150-Aluminum Construction	Shop Drawings [by area]	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
05-05520-Guardrails and Handrails	Test Reports	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
05-05520-Guardrails and Handrails	Sample Sections	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
05-05520-Guardrails and Handrails	Shop Drawings and Sample Section	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
05-05520-Guardrails and Handrails	Calcs	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
05-05530-Fabricated Grating	Product Data, Shop Drawings and Quality Control - Foot Traffic Grating	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
05-05530-Fabricated Grating	Product Data, Shop Drawings and Quality Control - Light Vehicular Traffic C	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
05-05530-Fabricated Grating	Product Data, Shop Drawings and Quality Control - Heavy Vehicular Traffic	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
06-06610-Miscellaneous Fiberglass Reinforced Plastic Fabrications	Product Data and Certification [by product]	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
06-06610-Miscellaneous Fiberglass Reinforced Plastic Fabrications	Shop Drawings and Calcs [by product]	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
06-06620-Plastic Liner (Polyvinyl Chloride)	Welder's Certs	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
06-06620-Plastic Liner (Polyvinyl Chloride)	Shop Drawings	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
07-07140-Fluid Applied Waterproofing	Product Data	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
07-07220-Roof Accessories	Coordination Drawings	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
07-07220-Roof Accessories	Shop Drawings	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
07-07542-Polyvinyl-Chloride (PVC) Roofing	Samples	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
07-07542-Polyvinyl-Chloride (PVC) Roofing	Research and Evaluation Reports	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
07-07542-Polyvinyl-Chloride (PVC) Roofing	Sample Warranties	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
07-07542-Polyvinyl-Chloride (PVC) Roofing	Final Warranties	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
07-07542-Polyvinyl-Chloride (PVC) Roofing	COPI	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
07-07542-Polyvinyl-Chloride (PVC) Roofing	Maintenance Data	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	ESM
07-07542-Polyvinyl-Chloride (PVC) Roofing	Installer Qualifications	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
07-07542-Polyvinyl-Chloride (PVC) Roofing	Product Data	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
07-07542-Polyvinyl-Chloride (PVC) Roofing	Shop Drawings	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
07-07620-Sheet Metal Flashing and Trim	Quality Assurance	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
07-07620-Sheet Metal Flashing and Trim	Product Data	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
07-07620-Sheet Metal Flashing and Trim	Shop Drawings	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
07-07900-Joint Sealants	Product Samples	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
07-07900-Joint Sealants	Applicator Qualification	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
07-07900-Joint Sealants	Product Qualification	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
07-07900-Joint Sealants	Mfr Certifications and Qualification	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
07-07900-Joint Sealants	Lab Test Results	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File

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Attachment A - Scope of Work

Exhibit 18 - Master Constrution Submittal Items List

07-07900-Joint Sealants	Mfr Installation Certifications (Joint Preparation and COPI)	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
07-07900-Joint Sealants	Contract Closeout Submittals	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
07-07900-Joint Sealants	Mfr Warranty	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
07-07900-Joint Sealants	Product Data	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
08-08110-Steel Doors and Frames	Product Data	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
08-08110-Steel Doors and Frames	Sound Door Shop Drawings	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
08-08110-Steel Doors and Frames	Sound Transmission Class (STC) Rated Doors Test Results	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
08-08110-Steel Doors and Frames	Mfr Warranty	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
08-08120-Fiberglass-Reinforced Door and Door Frame Systems	Selection Samples	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
08-08120-Fiberglass-Reinforced Door and Door Frame Systems	Verifications Samples	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
08-08120-Fiberglass-Reinforced Door and Door Frame Systems	Shop Drawings	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
08-08120-Fiberglass-Reinforced Door and Door Frame Systems	Mfr Instructions	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	ESM
08-08120-Fiberglass-Reinforced Door and Door Frame Systems	Mfr Warranty	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
08-08360-Overhead Doors	Shop Drawings	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
08-08360-Overhead Doors	[01783] Draft Individual ESM	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
08-08360-Overhead Doors	[01783] Final Individual ESM	Associate with first aff 1st package to be commissi	4.2 - Pre-ORT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
08-08360-Overhead Doors	[01783] As-Built Individual ESM	Associate with first aff 1st package to be commissi	4.5 - Beneficial Occupancy	25	3 - Prior to Start of Commissioni	Facility Record	ESM
08-08360-Overhead Doors	[01810] COPI and COPO	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
08-08710-Finish Hardware	Samples	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
08-08710-Finish Hardware	Shop Drawings	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
09-09800-Protective Coating	Paint Mfr's Information	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
09-09800-Protective Coating	Overspray Workplan	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
09-09800-Protective Coating	Samples	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
09-09800-Protective Coating	Applicator's Certifications	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
09-09800-Protective Coating	Submerged and Severe Service Coating	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
09-09800-Protective Coating	SCAQMD Regulations Data	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
09-09800-Protective Coating	Scaffold Plans	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
09-09800-Protective Coating	Schedule - 4-Week Look Ahead	Submitted weekly 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
09-09800-Protective Coating	Qualifications	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
09-09800-Protective Coating	Test Panels	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
09-09800-Protective Coating	Product Data, Coating Material List, and Safety Data Sheet	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
09-09808-Polyurethane Coatings for Manholes	Product Data	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
09-09808-Polyurethane Coatings for Manholes	Samples	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
09-09808-Polyurethane Coatings for Manholes	Mfr Certification	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
09-09808-Polyurethane Coatings for Manholes	Applicator's Certifications	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
09-09808-Polyurethane Coatings for Manholes	Scaffold Plans	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
09-09808-Polyurethane Coatings for Manholes	Schedule - 4-Week Look Ahead	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
09-09808-Polyurethane Coatings for Manholes	References	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
10-10400-Identifying Devices	Samples	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
10-10400-Identifying Devices	Shop Drawings	Associate with first aff 1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
11-11005-Machine Alignment	Alignment Records	Referenced spec. Do n TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Mechanical Alignment Report
11-11210-Pumps General	QA Program Certifications	Referenced spec. Do n TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11210-Pumps General	Manuf. Cert. of Supply Responsibility	Referenced spec. Do n TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11210-Pumps General	Special Tools	Referenced spec. Do n TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11210-Pumps General	Field Procedures	Referenced spec. Do n TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11210-Pumps General	[01810] FDT Plan and Procedures	>= 150hp. Referenced TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11210-Pumps General	[01810] Completed FDT1 (Unwitnessed) Documents	>= 150hp. Referenced TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11210-Pumps General	[01810] Mfr Service Rep Qualifications	TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11210-Pumps General	[01810] COPI	TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11210-Pumps General	[01783] Draft Individual ESM	TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11210-Pumps General	[01783] Final Individual ESM	TBD	4.2 - Pre-ORT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
11-11210-Pumps General	Shop Drawings	Referenced spec. Do n TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
11-11210-Pumps General	Factory Test Results	10 to 125 hp. Referenc TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
11-11210-Pumps General	[01810] Completed FDT2 (Witnessed) Documents	>= 150hp. Referenced TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
11-11210-Pumps General	[01810] COPO and Field Test Results	TBD	4.4 - RAT	25	3 - Prior to Start of Commissioni	Facility Record	Shop Drawings
11-11210-Pumps General	[01783] As-Built Individual ESM	TBD	4.5 - Beneficial Occupancy	25	3 - Prior to Start of Commissioni	Facility Record	ESM
11-11210-Pumps General	[01820] Training - Lesson Plans and Trainer Quals	TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11210-Pumps General	[01820] Training - Material Prior to Sessions	TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11210-Pumps General	[01820] Training - Material Used in Sessions	TBD	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
11-11210-Pumps General	[01820] Videos of Training Sessions	TBD	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
11-11220-Submersible Sump Pumps	[11210] QA Program Certifications	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File

PROJECT NAME AND NUMBER
Attachment A - Scope of Work
Exhibit 18 - Master Construction Submittal Items List

11-11220-Submersible Sump Pumps	[11210] Manuf. Cert. of Supply Responsibility		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11220-Submersible Sump Pumps	[01783] Draft Individual ESM		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11220-Submersible Sump Pumps	[01783] Final Individual ESM		1st package to be commissi	4.2 - Pre-ORT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
11-11220-Submersible Sump Pumps	[01810] Mfr Service Rep Qualifications		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11220-Submersible Sump Pumps	[01810] COPI		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11220-Submersible Sump Pumps	[01820] Training - Lesson Plans and Trainer Quals	Include if required in 0	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11220-Submersible Sump Pumps	[01820] Training - Material Prior to Sessions	Include if required in 0	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11220-Submersible Sump Pumps	[11210] Shop Drawings		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
11-11220-Submersible Sump Pumps	[11210] Special Tools		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Special Tools
11-11220-Submersible Sump Pumps	[11210] Field Procedures		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11220-Submersible Sump Pumps	[11210] Factory Test Results		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
11-11220-Submersible Sump Pumps	[01783] As-Built Individual ESM		1st package to be commissi	4.5 - Beneficial Occupancy	25	3 - Prior to Start of Commissioni	Facility Record	ESM
11-11220-Submersible Sump Pumps	[01810] COPO and Field Test Results		1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
11-11220-Submersible Sump Pumps	[01820] Training - Material Used in Sessions	Include if required in 0	1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
11-11220-Submersible Sump Pumps	[01820] Training Videos	Include if required in 0	1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
11-11293-Sluice and Shear Gates	Material Test Reports		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
11-11293-Sluice and Shear Gates	[01783] Draft Individual ESM		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11293-Sluice and Shear Gates	[01783] Final Individual ESM		1st package to be commissi	4.2 - Pre-ORT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
11-11293-Sluice and Shear Gates	[01810] Mfr Service Rep Qualifications		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11293-Sluice and Shear Gates	[01810] COPI		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11293-Sluice and Shear Gates	[01820] Training - Lesson Plans and Trainer Quals	Include if required in 0	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11293-Sluice and Shear Gates	[01820] Training - Material Prior to Sessions	Include if required in 0	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11293-Sluice and Shear Gates	Shop Drawings		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
11-11293-Sluice and Shear Gates	[01783] As-Built Individual ESM		1st package to be commissi	4.5 - Beneficial Occupancy	25	3 - Prior to Start of Commissioni	Facility Record	ESM
11-11293-Sluice and Shear Gates	[01810] COPO		1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
11-11293-Sluice and Shear Gates	[01820] Training - Material Used in Sessions	Include if required in 0	1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
11-11293-Sluice and Shear Gates	[01820] Training Videos	Include if required in 0	1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
11-11341-In-line Sludge Grinders	Installation Instructions		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11341-In-line Sludge Grinders	Field Test Procedures		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11341-In-line Sludge Grinders	Certificate of Unit Responsibility		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11341-In-line Sludge Grinders	Quality Assurance		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11341-In-line Sludge Grinders	Spare Parts and Special Tools		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Special Tools
11-11341-In-line Sludge Grinders	Mfr Certificate of Source Testing? 01810?		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11341-In-line Sludge Grinders	PLC Program Review Comments		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11341-In-line Sludge Grinders	Final PLC Program Certification		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11341-In-line Sludge Grinders	[01783] Draft Individual ESM		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11341-In-line Sludge Grinders	[01783] Final Individual ESM		1st package to be commissi	4.2 - Pre-ORT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
11-11341-In-line Sludge Grinders	[01810] Mfr Service Rep Qualifications		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11341-In-line Sludge Grinders	[01810] COPI		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11341-In-line Sludge Grinders	[01820] Training - Lesson Plans and Trainer Quals	Include if required in 0	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11341-In-line Sludge Grinders	[01820] Training - Material Prior to Sessions	Include if required in 0	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11341-In-line Sludge Grinders	Shop Drawings		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
11-11341-In-line Sludge Grinders	[01783] As-Built Individual ESM		1st package to be commissi	4.5 - Beneficial Occupancy	25	3 - Prior to Start of Commissioni	Facility Record	ESM
11-11341-In-line Sludge Grinders	[01810] COPO		1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
11-11341-In-line Sludge Grinders	[01820] Training - Material Used in Sessions	Include if required in 0	1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
11-11341-In-line Sludge Grinders	[01820] Training Videos	Include if required in 0	1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
11-11380-Diaphragm Metering Pumps	Cert. of Unit Responsibility		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11380-Diaphragm Metering Pumps	[01332] Seismic Calcs		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
11-11380-Diaphragm Metering Pumps	[01810 and 11210] FDT Plan and Procedures		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11380-Diaphragm Metering Pumps	[01783] Draft Individual ESM		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11380-Diaphragm Metering Pumps	[01783] Final Individual ESM		1st package to be commissi	4.2 - Pre-ORT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
11-11380-Diaphragm Metering Pumps	[01810] Mfr Service Rep Qualifications		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11380-Diaphragm Metering Pumps	[01810] COPI		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11380-Diaphragm Metering Pumps	[01810] Pre-Commissioning Electronic Configuration Files and Tracking List		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11380-Diaphragm Metering Pumps	[01810] ORT and FAT Electronic Configuration Files and Tracking List		1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
11-11380-Diaphragm Metering Pumps	[01820] Training - Lesson Plans and Trainer Quals	Include if required in 0	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11380-Diaphragm Metering Pumps	[01820] Training - Material Prior to Sessions	Include if required in 0	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11380-Diaphragm Metering Pumps	Shop Drawings		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
11-11380-Diaphragm Metering Pumps	[01810 and 11210] Completed FDT1 (Unwitnessed) Documents		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11380-Diaphragm Metering Pumps	[01783] As-Built Individual ESM		1st package to be commissi	4.5 - Beneficial Occupancy	25	3 - Prior to Start of Commissioni	Facility Record	ESM
11-11380-Diaphragm Metering Pumps	[01810] COPO		1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File

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11-11380-Diaphragm Metering Pumps	[01810] RAT Electronic Configuration Files and Tracking List		1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Facility Record	Electronic Config Files
11-11380-Diaphragm Metering Pumps	[01820] Training - Material Used in Sessions	Include if required in 0	1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Project File	Training Materials
11-11380-Diaphragm Metering Pumps	[01820] Training Videos	Include if required in 0	1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
11-11387-Rotary Lobe Pumps for Polymer Application	[01332] Seismic Calcs		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
11-11387-Rotary Lobe Pumps for Polymer Application	[01783] Draft Individual ESM		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11387-Rotary Lobe Pumps for Polymer Application	[01783] Final Individual ESM		1st package to be commissi	4.2 - Pre-ORT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
11-11387-Rotary Lobe Pumps for Polymer Application	[01810] Mfr Service Rep Qualifications		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11387-Rotary Lobe Pumps for Polymer Application	[01810] COPI		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11387-Rotary Lobe Pumps for Polymer Application	[01820] Training - Lesson Plans and Trainer Quals	Include if required in 0	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11387-Rotary Lobe Pumps for Polymer Application	[01820] Training - Material Prior to Sessions	Include if required in 0	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11387-Rotary Lobe Pumps for Polymer Application	[11000] Installation Cert		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11387-Rotary Lobe Pumps for Polymer Application	[11210] FDT Plan and Procedures		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11387-Rotary Lobe Pumps for Polymer Application	[16220] Motor Certified Factory Test Reports		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
11-11387-Rotary Lobe Pumps for Polymer Application	Shop Drawings		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
11-11387-Rotary Lobe Pumps for Polymer Application	Motor Overhaul Instructions		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	ESM
11-11387-Rotary Lobe Pumps for Polymer Application	[01783] As-Built Individual ESM		1st package to be commissi	4.5 - Beneficial Occupancy	25	3 - Prior to Start of Commissioni	Facility Record	ESM
11-11387-Rotary Lobe Pumps for Polymer Application	[01810] COPO		1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
11-11387-Rotary Lobe Pumps for Polymer Application	[01820] Training - Material Used in Sessions	Include if required in 0	1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
11-11387-Rotary Lobe Pumps for Polymer Application	[01820] Videos of Training Sessions	Include if required in 0	1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
11-11387-Rotary Lobe Pumps for Polymer Application	[11210] Completed FDT Documents		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Test Results
11-11387-Rotary Lobe Pumps for Polymer Application	[16220] Motor Shop Drawings		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
11-11910-Diesel-fueled Standby Gen Set	Certifications		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11910-Diesel-fueled Standby Gen Set	Statement of Successful Operation		1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
11-11910-Diesel-fueled Standby Gen Set	Factory Test Reports		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
11-11910-Diesel-fueled Standby Gen Set	Field Test Reports		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
11-11910-Diesel-fueled Standby Gen Set	Post Operating Instructions		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
11-11910-Diesel-fueled Standby Gen Set	Special Tools		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Special Tools
11-11910-Diesel-fueled Standby Gen Set	[01332 and 11910] Sesimic Calculations	Optional spec item	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
11-11910-Diesel-fueled Standby Gen Set	[01783] Draft Individual ESM		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11910-Diesel-fueled Standby Gen Set	[01783] Final Individual ESM		1st package to be commissi	4.2 - Pre-ORT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
11-11910-Diesel-fueled Standby Gen Set	[01810] FDT Plan and Procedures	Add reference to 01810 in master spec.	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11910-Diesel-fueled Standby Gen Set	[01810] Completed FDT1 (Unwitnessed) Documents	Add reference to 01810 in master spec.	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11910-Diesel-fueled Standby Gen Set	[01810] Mfr Service Rep Qualifications		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11910-Diesel-fueled Standby Gen Set	[01810] COPI		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11910-Diesel-fueled Standby Gen Set	[01810] Pre-Commissioning Electronic Configuration Files and Tracking List		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11910-Diesel-fueled Standby Gen Set	[01810] ORT and FAT Electronic Configuration Files and Tracking List		1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
11-11910-Diesel-fueled Standby Gen Set	[01820] Training - Lesson Plans and Trainer Quals	Include if required in 0	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11910-Diesel-fueled Standby Gen Set	[01820] Training - Material Prior to Sessions	Include if required in 0	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
11-11910-Diesel-fueled Standby Gen Set	Shop Drawings		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
11-11910-Diesel-fueled Standby Gen Set	Permit Data		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Facility Permits
11-11910-Diesel-fueled Standby Gen Set	[01783] As-Built Individual ESM		1st package to be commissi	4.5 - Beneficial Occupancy	25	3 - Prior to Start of Commissioni	Facility Record	ESM
11-11910-Diesel-fueled Standby Gen Set	[01810] Completed FDT2 (Witnessed) Documents	Add reference to 01810 in master spec.	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Test Results
11-11910-Diesel-fueled Standby Gen Set	[01810] COPO		1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
11-11910-Diesel-fueled Standby Gen Set	[01810] RAT Electronic Configuration Files and Tracking List		1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Facility Record	Electronic Config Files
11-11910-Diesel-fueled Standby Gen Set	[01820] Training - Material Used in Sessions	Include if required in 0	1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
11-11910-Diesel-fueled Standby Gen Set	[01820] Training Videos	Include if required in 0	1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
13-13110-Corrosion Control	Samples		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
13-13110-Corrosion Control	Contractor Qualifications and References		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
13-13110-Corrosion Control	Product Data		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
13-13110-Corrosion Control	Shop Drawings		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
13-13500-Closed Circuit Television CCTV	[01783] Draft Individual ESM		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
13-13500-Closed Circuit Television CCTV	[01783] Final Individual ESM		1st package to be commissi	4.2 - Pre-ORT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
13-13500-Closed Circuit Television CCTV	[01810] Mfr Service Rep Qualifications		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
13-13500-Closed Circuit Television CCTV	[01810] COPI		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
13-13500-Closed Circuit Television CCTV	Product Data		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings

PROJECT NAME AND NUMBER

Attachment A - Scope of Work

Exhibit 18 - Master Construction Submittal Items List

13-13500-Closed Circuit Television CCTV	Shop Drawings		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
13-13500-Closed Circuit Television CCTV	[01783] As-Built Individual ESM		1st package to be commissi	4.5 - Beneficial Occupancy	25	3 - Prior to Start of Commissioni	Facility Record	ESM
13-13500-Closed Circuit Television CCTV	[01810] COPO		1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
13-13700-Access Control and Alarm Monitoring System	Test Documentation		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
13-13700-Access Control and Alarm Monitoring System	[01783] Draft Individual ESM		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
13-13700-Access Control and Alarm Monitoring System	[01783] Final Individual ESM		1st package to be commissi	4.2 - Pre-ORT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
13-13700-Access Control and Alarm Monitoring System	[01810] Mfr Service Rep Qualifications		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
13-13700-Access Control and Alarm Monitoring System	[01810] COPI		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
13-13700-Access Control and Alarm Monitoring System	[01810] Pre-Commissioning Electronic Configuration Files and Tracking List		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
13-13700-Access Control and Alarm Monitoring System	[01810] ORT and FAT Electronic Configuration Files and Tracking List		1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
13-13700-Access Control and Alarm Monitoring System	Product Data		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
13-13700-Access Control and Alarm Monitoring System	Shop Drawings		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
13-13700-Access Control and Alarm Monitoring System	As-Built Drawings		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	As-Built
13-13700-Access Control and Alarm Monitoring System	[01783] As-Built Individual ESM		1st package to be commissi	4.5 - Beneficial Occupancy	25	3 - Prior to Start of Commissioni	Facility Record	ESM
13-13700-Access Control and Alarm Monitoring System	[01810] COPO		1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
13-13700-Access Control and Alarm Monitoring System	[01810] RAT Electronic Configuration Files and Tracking List		1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Facility Record	Electronic Config Files
13-13850-Fire Alarm System	Certification		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
13-13850-Fire Alarm System	Test Documentation		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
13-13850-Fire Alarm System	Warranty Documentation		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
13-13850-Fire Alarm System	[01783] Draft Individual ESM		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
13-13850-Fire Alarm System	[01783] Final Individual ESM		1st package to be commissi	4.2 - Pre-ORT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
13-13850-Fire Alarm System	[01810] Mfr Service Rep Qualifications		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
13-13850-Fire Alarm System	[01810] COPI		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
13-13850-Fire Alarm System	[01810] Pre-Commissioning Electronic Configuration Files and Tracking List		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
13-13850-Fire Alarm System	[01810] ORT and FAT Electronic Configuration Files and Tracking List		1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
13-13850-Fire Alarm System	Product Data		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
13-13850-Fire Alarm System	Shop Drawings		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
13-13850-Fire Alarm System	As-Built Drawings		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	As-Built
13-13850-Fire Alarm System	[01783] As-Built Individual ESM		1st package to be commissi	4.5 - Beneficial Occupancy	25	3 - Prior to Start of Commissioni	Facility Record	ESM
13-13850-Fire Alarm System	[01810] COPO		1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
13-13850-Fire Alarm System	[01810] RAT Electronic Configuration Files and Tracking List		1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Facility Record	Electronic Config Files
14-14600-Hoists and Cranes General	Shop Drawings	No submittal requirem	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
14-14600-Hoists and Cranes General	Special Tools	No submittal requirem	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Special Tools
14-14605-Electric Monorail System	[01783] Draft Individual ESM		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
14-14605-Electric Monorail System	[01783] Final Individual ESM		1st package to be commissi	4.2 - Pre-ORT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
14-14605-Electric Monorail System	[01810] Mfr Service Rep Qualifications		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
14-14605-Electric Monorail System	[01810] COPI		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
14-14605-Electric Monorail System	[01820] Training - Lesson Plans and Trainer Quals		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
14-14605-Electric Monorail System	[01820] Training - Material Prior to Sessions		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
14-14605-Electric Monorail System	[14600 and 14605] Shop Drawings		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
14-14605-Electric Monorail System	[14600] Special Tools		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Special Tools
14-14605-Electric Monorail System	Cal/OSHA Load Test Cert.		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Test Results
14-14605-Electric Monorail System	[01783] As-Built Individual ESM		1st package to be commissi	4.5 - Beneficial Occupancy	25	3 - Prior to Start of Commissioni	Facility Record	ESM
14-14605-Electric Monorail System	[01810] COPO		1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
14-14605-Electric Monorail System	[01820] Training - Material Used in Sessions		1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
14-14605-Electric Monorail System	[01820] Training Videos		1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
14-14630-Bridge Cranes	[01783] Draft Individual ESM		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
14-14630-Bridge Cranes	[01783] Final Individual ESM		1st package to be commissi	4.2 - Pre-ORT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
14-14630-Bridge Cranes	[01810] Mfr Service Rep Qualifications		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
14-14630-Bridge Cranes	[01810] COPI		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
14-14630-Bridge Cranes	[01820] Training - Lesson Plans and Trainer Quals		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
14-14630-Bridge Cranes	[01820] Training - Material Prior to Sessions		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
14-14630-Bridge Cranes	[14600 and 14605] Shop Drawings		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
14-14630-Bridge Cranes	[14600] Special Tools		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Special Tools
14-14630-Bridge Cranes	Cal/OSHA Load Test Cert.		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Test Results
14-14630-Bridge Cranes	[01783] As-Built Individual ESM		1st package to be commissi	4.5 - Beneficial Occupancy	25	3 - Prior to Start of Commissioni	Facility Record	ESM
14-14630-Bridge Cranes	[01810] COPO		1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
14-14630-Bridge Cranes	[01820] Training - Material Used in Sessions		1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
14-14630-Bridge Cranes	[01820] Training Videos		1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
15-15000-Piping, General	[15000] Quality Control Certification and Program Outline	Optional spec item. Inc	TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
15-15000-Piping, General	Link Seal Registrations		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File

PROJECT NAME AND NUMBER
Attachment A - Scope of Work
Exhibit 18 - Master Constrution Submittal Items List

15-15000-Piping, General	Restraint Elements and Calcs		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
15-15000-Piping, General	[15000] Field Test Reports		TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
15-15000-Piping, General	Product Data	Duplicate for each unique equipment	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
15-15000-Piping, General	[15000] Product Data		TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
15-15000-Piping, General	[15000] Shop and Layout Drawings		TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
15-15000-Piping, General	[15000] Welder Qualifications		TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
15-15005-Ductile Iron Pipe	Pipe Mfr Certification	Optional spec item. In	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
15-15005-Ductile Iron Pipe	Samples	Optional spec item. In	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
15-15005-Ductile Iron Pipe	[15000] Field Test Reports		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
15-15005-Ductile Iron Pipe	Product Data		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
15-15005-Ductile Iron Pipe	[15000 and 15005] Shop and Layout Drawings		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
15-15009-Steel Pipe - Fabricated Specials	Design Calcs		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
15-15009-Steel Pipe - Fabricated Specials	Certification of Compliance		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
15-15009-Steel Pipe - Fabricated Specials	Shop Test Report		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
15-15009-Steel Pipe - Fabricated Specials	[15000] Field Test Reports	Included with steel pip	TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
15-15009-Steel Pipe - Fabricated Specials	[15000 and 15009] Shop Drawings		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
15-15010-Mill Piping – Exposed and Buried	Material Test Reports and Certification	Copy if multiple submi	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
15-15010-Mill Piping – Exposed and Buried	[15000] Field Test Reports		TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
15-15010-Mill Piping – Exposed and Buried	Product Data	Copy if multiple submi	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
15-15015-Large-Diameter Steel Pipe	Welders' Certs		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
15-15015-Large-Diameter Steel Pipe	Material Test Reports		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
15-15015-Large-Diameter Steel Pipe	[15000] Field Test Reports		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
15-15015-Large-Diameter Steel Pipe	[15000 and 15015] Shop Drawings		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
15-15015-Large-Diameter Steel Pipe	[15000 and 15015] Layout Drawings		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
15-15020-Pipe Supports	Product Data, Shop Drawings and [01332] Seismic Calcs		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
15-15030-Piping Identification Systems	Identification Device Samples		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
15-15030-Piping Identification Systems	Shop Drawings and Product Data		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
15-15100-Valves, General	QA Certifications	Need to include with e	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
15-15100-Valves, General	Valve List, Layout Drawings and Orientations	Need to include with e	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
15-15100-Valves, General	Installation Instructions	Need to include with e	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
15-15100-Valves, General	Certified Factory Test Reports	Need to include with e	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
15-15100-Valves, General	Potable Water Service Compliance Certificate	Need to include with e	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
15-15100-Valves, General	Shop Drawings	Need to include with e	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
15-15101-Valve Actuators	List of References		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
15-15101-Valve Actuators	Certified Factory Test Reports		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
15-15101-Valve Actuators	Mfr Experience		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
15-15101-Valve Actuators	Warranty		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
15-15101-Valve Actuators	AWWA C542 Compliance		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
15-15101-Valve Actuators	[01783] Draft Individual ESM		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
15-15101-Valve Actuators	[01783] Final Individual ESM		1st package to be commissi	4.2 - Pre-ORT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
15-15101-Valve Actuators	[01810] Mfr Service Rep Qualifications		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
15-15101-Valve Actuators	[01810] COPI		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
15-15101-Valve Actuators	[01810] Pre-Commissioning Electronic Configuration Files and Tracking List		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
15-15101-Valve Actuators	[01810] ORT and FAT Electronic Configuration Files and Tracking List		1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
15-15101-Valve Actuators	[01820] Training - Lesson Plans and Trainer Quals	Include if required in 0	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
15-15101-Valve Actuators	[01820] Training - Material Prior to Sessions	Include if required in 0	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
15-15101-Valve Actuators	Shop Drawings and Product Data		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
15-15101-Valve Actuators	Battery Warranty		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
15-15101-Valve Actuators	[01783] As-Built Individual ESM		1st package to be commissi	4.5 - Beneficial Occupancy	25	3 - Prior to Start of Commissioni	Facility Record	ESM
15-15101-Valve Actuators	[01810] COPO		1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
15-15101-Valve Actuators	[01810] RAT Electronic Configuration Files and Tracking List		1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Facility Record	Electronic Config Files
15-15101-Valve Actuators	[01820] Training - Material Used in Sessions	Include if required in 0	1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
15-15101-Valve Actuators	[01820] Training Videos	Include if required in 0	1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
15-15104-Butterfly Valves	[01783] Draft Individual ESM		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
15-15104-Butterfly Valves	[01783] Final Individual ESM		1st package to be commissi	4.2 - Pre-ORT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
15-15104-Butterfly Valves	[15100] QA Certifications		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
15-15104-Butterfly Valves	[15100] Valve List, Layout Drawings and Orientations		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
15-15104-Butterfly Valves	[15100] Certified Factory Test Reports		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
15-15104-Butterfly Valves	[01783] As-Built Individual ESM		1st package to be commissi	4.5 - Beneficial Occupancy	25	3 - Prior to Start of Commissioni	Facility Record	ESM
15-15104-Butterfly Valves	[15100] Shop Drawings		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings

PROJECT NAME AND NUMBER

Attachment A - Scope of Work

Exhibit 18 - Master Construction Submittal Items List

[illegible]

PROJECT NAME AND NUMBER
Attachment A - Scope of Work
Exhibit 18 - Master Constrution Submittal Items List

15-15111-Hydraulically Operated Diaphragm Control Valves	[01783] As-Built Individual ESM		1st package to be commissi	4.5 - Beneficial Occupancy	25	3 - Prior to Start of Commissioni	Facility Record	ESM
15-15111-Hydraulically Operated Diaphragm Control Valves	[15100] Shop Drawings		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
15-15115-Miscellaneous Valves	[01783] Draft Individual ESM	Duplicate for each unit	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
15-15115-Miscellaneous Valves	[01783] Final Individual ESM	Duplicate for each unit	1st package to be commissi	4.2 - Pre-ORT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
15-15115-Miscellaneous Valves	[15100] QA Certifications	Duplicate for each unit	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
15-15115-Miscellaneous Valves	[15100] Valve List and Orientations	Duplicate for each unit	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
15-15115-Miscellaneous Valves	[15100] Certified Factory Test Reports	Duplicate for each unit	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
15-15115-Miscellaneous Valves	[01783] As-Built Individual ESM	Duplicate for each unit	1st package to be commissi	4.5 - Beneficial Occupancy	25	3 - Prior to Start of Commissioni	Facility Record	ESM
15-15115-Miscellaneous Valves	[15100] Shop Drawings	Duplicate for each unit	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
15-15116-Telescoping Valves	[01783] Draft Individual ESM		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
15-15116-Telescoping Valves	[01783] Final Individual ESM		1st package to be commissi	4.2 - Pre-ORT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
15-15116-Telescoping Valves	[15100] QA Certifications		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
15-15116-Telescoping Valves	[15100] Valve List and Orientations		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
15-15116-Telescoping Valves	[15100] Certified Factory Test Reports		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
15-15116-Telescoping Valves	[01783] As-Built Individual ESM		1st package to be commissi	4.5 - Beneficial Occupancy	25	3 - Prior to Start of Commissioni	Facility Record	ESM
15-15116-Telescoping Valves	[15100] Shop Drawings		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
15-15120-Piping Specialties	Mfr Certification Tests	Duplicate for each unit	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
15-15120-Piping Specialties	Mfr Instructions	Duplicate for each unit	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
15-15120-Piping Specialties	[01783] Draft Individual ESM	Duplicate for each unit	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
15-15120-Piping Specialties	[01783] Final Individual ESM	Duplicate for each unit	1st package to be commissi	4.2 - Pre-ORT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
15-15120-Piping Specialties	Shop Drawings and Product Data	Duplicate for each unit	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
15-15120-Piping Specialties	[01783] As-Built Individual ESM	Duplicate for each unit	1st package to be commissi	4.5 - Beneficial Occupancy	25	3 - Prior to Start of Commissioni	Facility Record	ESM
15-15250-Pipe and Equipment Insulation	Product Data		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
15-15430-Plumbing Specialties	Product Data	Duplicate for each unit	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
15-15440-Plumbing Fixtures	Product Data		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
15-15810-Fiberglass Ducting	Resin Corrosion Charts and Fire Ratings		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
15-15810-Fiberglass Ducting	Shop Drawings and Mfr Experience		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
15-15954-HVAC System Testing, Adjusting and Balancing	Contractor Qualifications		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
15-15954-HVAC System Testing, Adjusting and Balancing	Interim Report		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
15-15954-HVAC System Testing, Adjusting and Balancing	Testing and Balancing Schedule		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
15-15954-HVAC System Testing, Adjusting and Balancing	Final Testing Report		1st package to be commissi	4.2 - Pre-ORT	25	3 - Prior to Start of Commissioni	Facility Record	Test Results
15-15955-Industrial Vent System Testing Adjusting and Balancing	TAB Report - Simplified Report		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Test Results
15-15955-Industrial Vent System Testing Adjusting and Balancing	TAB Report - Complete Report		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Test Results
16-16010-Electrical General Provisions	Contractor Prepared Construction Drawings		TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	As-Built
16-16010-Electrical General Provisions	Safety Data Sheet		TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16010-Electrical General Provisions	Protective Device Coordination Study		TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16010-Electrical General Provisions	Motor Rotation and Phasing Check Report	Move to 16220?	TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16010-Electrical General Provisions	Temporary Storage and Protection Methods		TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16010-Electrical General Provisions	[16080] Field Test Reports		TBD	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Engineering Project File
16-16010-Electrical General Provisions	[01783] Draft Individual ESM		TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16010-Electrical General Provisions	[01783] Final Individual ESM		TBD	4.2 - Pre-ORT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
16-16010-Electrical General Provisions	[01820] Training - Lesson Plans and Trainer Quals	Include if required in 0	TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16010-Electrical General Provisions	[01820] Training - Material Prior to Sessions	Include if required in 0	TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16010-Electrical General Provisions	Shop Drawings		TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16010-Electrical General Provisions	[01332] Seismic Calcs		TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16010-Electrical General Provisions	[01783] As-Built Individual ESM		TBD	4.5 - Beneficial Occupancy	25	3 - Prior to Start of Commissioni	Facility Record	ESM
16-16010-Electrical General Provisions	[01820] Training - Material Used in Sessions	Include if required in 0	TBD	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
16-16010-Electrical General Provisions	[01820] Training Videos	Include if required in 0	TBD	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
16-16050-Basic Materials and Methods	[01783] Draft Individual ESM		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16050-Basic Materials and Methods	[01783] Final Individual ESM		1st package to be commissi	4.2 - Pre-ORT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
16-16050-Basic Materials and Methods	Shop Drawings and Product Data		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16050-Basic Materials and Methods	[01332] Seismic Calcs		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16050-Basic Materials and Methods	[01783] As-Built Individual ESM		1st package to be commissi	4.5 - Beneficial Occupancy	25	3 - Prior to Start of Commissioni	Facility Record	ESM
16-16060-Grounding and Bonding	Ground Test Reports		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Test Results
16-16060-Grounding and Bonding	Shop Drawings and Product Data		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16075-Electrical Identification Nameplates and Warning Signs	Product Data		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16080-Electrical Testing	Testing Organization Qualifications		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16080-Electrical Testing	Testing Plan		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16080-Electrical Testing	Test Datasheets		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16080-Electrical Testing	NETA Org Test Reports	Per package	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Test Results
16-16080-Electrical Testing	Contractor Test Reports	Per package	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Test Results

PROJECT NAME AND NUMBER
Attachment A - Scope of Work
Exhibit 18 - Master Constrution Submittal Items List

16-16080-Electrical Testing	Protective Device Setpoint and Arc Flash Data Request	Per package	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16080-Electrical Testing	COPI	Per package	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16120-Conductors and Cables	Product Data		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16120-Conductors and Cables	MV Cable Procedures and Practices		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16120-Conductors and Cables	Qualifications and Certifications for MV Splicers	>= #4/0 and MV cables	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16120-Conductors and Cables	Cable Pulling Tension Calcs		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16122-Air-Blown Fiber Optics	Contractor Qualifications		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16122-Air-Blown Fiber Optics	As-Built Drawings and Schedules	Is this needed as a sep	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	As-Built
16-16122-Air-Blown Fiber Optics	Acceptance Testing Procedures		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16122-Air-Blown Fiber Optics	Acceptance Testing Report		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Test Results
16-16122-Air-Blown Fiber Optics	Product Data		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16122-Air-Blown Fiber Optics	Shop and Field Drawings and Schedules	Is this needed?	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16124-Conventional Fiber Optics	Factory Test Reports		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16124-Conventional Fiber Optics	Pre-Installation Tests		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16124-Conventional Fiber Optics	Test Device Data		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16124-Conventional Fiber Optics	Field Drawings		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16124-Conventional Fiber Optics	Cable Pulling and Splicing Work Plan		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16124-Conventional Fiber Optics	Cable Pulling Report		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16124-Conventional Fiber Optics	Acceptance Testing Report		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Test Results
16-16124-Conventional Fiber Optics	Product Data		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16124-Conventional Fiber Optics	Shop Drawings		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16124-Conventional Fiber Optics	As-Built Drawings		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	As-Built
16-16130-Raceway Systems and Pull Boxes	Pull Box Installation Data		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16130-Raceway Systems and Pull Boxes	Existing Conduit Support System Use Data		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16130-Raceway Systems and Pull Boxes	Contractor's Personnel Qualifications		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16130-Raceway Systems and Pull Boxes	Product Data		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16139-Cable Trays	Product Data		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16139-Cable Trays	Layout Drawings		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16139-Cable Trays	Electrical Calculations		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16139-Cable Trays	[01332] Seismic Calculations		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16220-Electric Motors	[16220] Certified Factory Test Reports	Master list only. Include if required in 0	TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16220-Electric Motors	[16220] Shop Drawings	Master list only. Include if required in 0	TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16262-125 V DC System	Certified Factory Test Reports		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16262-125 V DC System	[01332] Seismic Calculations		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16262-125 V DC System	[01783] Draft Individual ESM		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16262-125 V DC System	[01783] Final Individual ESM		1st package to be commissi	4.2 - Pre-ORT	25	3 - Prior to Start of Commissioning	Project File	Engineering Project File
16-16262-125 V DC System	[01810] Mfr Service Rep Qualifications		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16262-125 V DC System	[01810] COPI		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16262-125 V DC System	[01810] Pre-Commissioning Electronic Configuration Files and Tracking List		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16262-125 V DC System	[01810] ORT and FAT Electronic Configuration Files and Tracking List		1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioning	Project File	Engineering Project File
16-16262-125 V DC System	[01820] Training - Lesson Plans and Trainer Quals	Include if required in 0	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16262-125 V DC System	[01820] Training - Material Prior to Sessions	Include if required in 0	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16262-125 V DC System	Shop Drawings		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16262-125 V DC System	[01783] As-Built Individual ESM		1st package to be commissi	4.5 - Beneficial Occupancy	25	3 - Prior to Start of Commissioning	Facility Record	ESM
16-16262-125 V DC System	[01810] COPO		1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioning	Project File	Engineering Project File
16-16262-125 V DC System	[01810] RAT Electronic Configuration Files and Tracking List		1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioning	Facility Record	Electronic Config Files
16-16262-125 V DC System	[01820] Training - Material Used in Sessions	Include if required in 0	1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioning	Facility Record	Training Materials
16-16262-125 V DC System	[01820] Training Videos	Include if required in 0	1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioning	Facility Record	Training Materials
16-16265-Uninterruptible Power System 125 kVA	Shop Drawings		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16265-Uninterruptible Power System 125 kVA	[01783] As-Built Individual ESM		1st package to be commissi	4.5 - Beneficial Occupancy	25	3 - Prior to Start of Commissioning	Facility Record	ESM
16-16265-Uninterruptible Power System 125 kVA	[01810] COPO		1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioning	Project File	Engineering Project File
16-16265-Uninterruptible Power System 125 kVA	[01810] RAT Electronic Configuration Files and Tracking List		1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioning	Facility Record	Electronic Config Files
16-16265-Uninterruptible Power System 125 kVA	[01820] Training - Material Used in Sessions	Include if required in 0	1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioning	Facility Record	Training Materials
16-16265-Uninterruptible Power System 125 kVA	[01820] Training Videos	Include if required in 0	1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioning	Facility Record	Training Materials
16-16265-Uninterruptible Power System 125 kVA	Certified Factory Test Reports		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16265-Uninterruptible Power System 125 kVA	[01332] Seismic Calculations		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16265-Uninterruptible Power System 125 kVA	[01783] Draft Individual ESM		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16265-Uninterruptible Power System 125 kVA	[01783] Final Individual ESM		1st package to be commissi	4.2 - Pre-ORT	25	3 - Prior to Start of Commissioning	Project File	Engineering Project File
16-16265-Uninterruptible Power System 125 kVA	[01810] Mfr Service Rep Qualifications		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16265-Uninterruptible Power System 125 kVA	[01810] COPI		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16265-Uninterruptible Power System 125 kVA	[01810] Pre-Commissioning Electronic Configuration Files and Tracking List		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File

Attachment A - Scope of Work

3 - Master Construction Submittal

Tracking List	1st package to be commiss

16-16265-Uninterruptible Power System 125 kVA	[01810] ORT and FAT Electronic Configuration Files and Tracking List		1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
16-16265-Uninterruptible Power System 125 kVA	[01820] Training - Lesson Plans and Trainer Quals	Include if required in 0	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16265-Uninterruptible Power System 125 kVA	[01820] Training - Material Prior to Sessions	Include if required in 0	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16266-Uninterruptible Power Supply 1 kVA to 18 kVA	Shop Drawings		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16266-Uninterruptible Power Supply 1 kVA to 18 kVA	[01783] As-Built Individual ESM		1st package to be commissi	4.5 - Beneficial Occupancy	25	3 - Prior to Start of Commissioni	Facility Record	ESM
16-16266-Uninterruptible Power Supply 1 kVA to 18 kVA	[01810] COPO		1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
16-16266-Uninterruptible Power Supply 1 kVA to 18 kVA	[01810] RAT Electronic Configuration Files and Tracking List		1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Facility Record	Electronic Config Files
16-16266-Uninterruptible Power Supply 1 kVA to 18 kVA	[01820] Training - Material Used in Sessions	Include if required in 0	1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
16-16266-Uninterruptible Power Supply 1 kVA to 18 kVA	[01820] Training Videos	Include if required in 0	1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
16-16266-Uninterruptible Power Supply 1 kVA to 18 kVA	Certified Factory Test Reports		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16266-Uninterruptible Power Supply 1 kVA to 18 kVA	[01332] Seismic Calculations		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16266-Uninterruptible Power Supply 1 kVA to 18 kVA	[01783] Draft Individual ESM		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16266-Uninterruptible Power Supply 1 kVA to 18 kVA	[01783] Final Individual ESM		1st package to be commissi	4.2 - Pre-ORT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
16-16266-Uninterruptible Power Supply 1 kVA to 18 kVA	[01810] Mfr Service Rep Qualifications		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16266-Uninterruptible Power Supply 1 kVA to 18 kVA	[01810] COPI		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16266-Uninterruptible Power Supply 1 kVA to 18 kVA	[01810] Pre-Commissioning Electronic Configuration Files and Tracking List		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16266-Uninterruptible Power Supply 1 kVA to 18 kVA	[01810] ORT and FAT Electronic Configuration Files and Tracking List		1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
16-16266-Uninterruptible Power Supply 1 kVA to 18 kVA	[01820] Training - Lesson Plans and Trainer Quals	Include if required in 0	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16266-Uninterruptible Power Supply 1 kVA to 18 kVA	[01820] Training - Material Prior to Sessions	Include if required in 0	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16270-Power Transformers - Liquid Immersed	Shop Drawings		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16270-Power Transformers - Liquid Immersed	[01783] As-Built Individual ESM		1st package to be commissi	4.5 - Beneficial Occupancy	25	3 - Prior to Start of Commissioni	Facility Record	ESM
16-16270-Power Transformers - Liquid Immersed	[01810] Completed FDT1 Documents		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Test Results
16-16270-Power Transformers - Liquid Immersed	[01810] Completed FDT2 Documents	Ask Bob Holdman if we	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Test Results
16-16270-Power Transformers - Liquid Immersed	[01810] COPO		1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
16-16270-Power Transformers - Liquid Immersed	[01810] RAT Electronic Configuration Files and Tracking List		1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Facility Record	Electronic Config Files
16-16270-Power Transformers - Liquid Immersed	[01820] Training - Material Used in Sessions	Include if required in 0	1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
16-16270-Power Transformers - Liquid Immersed	[01820] Training Videos	Include if required in 0	1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
16-16270-Power Transformers - Liquid Immersed	Certified Factory Test Report		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16270-Power Transformers - Liquid Immersed	Electronic AutoCAD Files		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Engineering Drawing
16-16270-Power Transformers - Liquid Immersed	[01332] Seismic Calculations		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16270-Power Transformers - Liquid Immersed	[01783] Draft Individual ESM		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16270-Power Transformers - Liquid Immersed	[01783] Final Individual ESM		1st package to be commissi	4.2 - Pre-ORT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
16-16270-Power Transformers - Liquid Immersed	[01810] FDT Plan and Procedures		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16270-Power Transformers - Liquid Immersed	[01810] Mfr Service Rep Qualifications		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16270-Power Transformers - Liquid Immersed	[01810] COPI		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16270-Power Transformers - Liquid Immersed	[01810] Pre-Commissioning Electronic Configuration Files and Tracking List		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16270-Power Transformers - Liquid Immersed	[01810] ORT and FAT Electronic Configuration Files and Tracking List		1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
16-16270-Power Transformers - Liquid Immersed	[01820] Training - Lesson Plans and Trainer Quals	Include if required in 0	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16270-Power Transformers - Liquid Immersed	[01820] Training - Material Prior to Sessions	Include if required in 0	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16290-Power Monitors	Product Data	Need product data if p	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16290-Power Monitors	[01783] As-Built Individual ESM		1st package to be commissi	4.5 - Beneficial Occupancy	25	3 - Prior to Start of Commissioni	Facility Record	ESM
16-16290-Power Monitors	[01810] RAT Electronic Configuration Files and Tracking List		1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Facility Record	Electronic Config Files
16-16290-Power Monitors	[01820] Training - Material Used in Sessions	Required in spec. Neec	1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
16-16290-Power Monitors	[01820] Training Videos	Required in spec. Neec	1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
16-16290-Power Monitors	Field Service Personnel Qualifications		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16290-Power Monitors	Field Configuration Data Request		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16290-Power Monitors	Field Configuration Records		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16290-Power Monitors	[01783] Draft Individual ESM		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16290-Power Monitors	[01783] Final Individual ESM		1st package to be commissi	4.2 - Pre-ORT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
16-16290-Power Monitors	[01810] Pre-Commissioning Electronic Configuration Files and Tracking List		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16290-Power Monitors	[01810] ORT and FAT Electronic Configuration Files and Tracking List		1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
16-16290-Power Monitors	[01820] Training - Lesson Plans and Trainer Quals	Required in spec. Neec	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16290-Power Monitors	[01820] Training - Material Prior to Sessions	Required in spec. Neec	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16340-Medium-Voltage Switchgear	Shop Drawings		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16340-Medium-Voltage Switchgear	Quality Assurance Documentation		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16340-Medium-Voltage Switchgear	[01783] As-Built Individual ESM		1st package to be commissi	4.5 - Beneficial Occupancy	25	3 - Prior to Start of Commissioni	Facility Record	ESM
16-16340-Medium-Voltage Switchgear	[01810] Completed FDT1 Documents		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16340-Medium-Voltage Switchgear	[01810] Completed FDT2 Documents		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Test Results
16-16340-Medium-Voltage Switchgear	[01810] COPO		1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
16-16340-Medium-Voltage Switchgear	[01810] RAT Electronic Configuration Files and Tracking List		1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Facility Record	Electronic Config Files
16-16340-Medium-Voltage Switchgear	[01820] Training - Material Used in Sessions		1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials

PROJECT NAME AND NUMBER
Attachment A - Scope of Work
Exhibit 18 - Master Construction Submittal Items List

16-16340-Medium-Voltage Switchgear	[01820] Training Videos	1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
16-16340-Medium-Voltage Switchgear	Installation Instructions	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16340-Medium-Voltage Switchgear	Bus Transfer Instruction Plate Description	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16340-Medium-Voltage Switchgear	[01332] Seismic Calculations	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16340-Medium-Voltage Switchgear	[01783] Draft Individual ESM	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16340-Medium-Voltage Switchgear	[01783] Final Individual ESM	1st package to be commissi	4.2 - Pre-ORT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
16-16340-Medium-Voltage Switchgear	[01810] FDT Plan and Procedures	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16340-Medium-Voltage Switchgear	[01810] Mfr Service Rep Qualifications	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16340-Medium-Voltage Switchgear	[01810] COPI	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16340-Medium-Voltage Switchgear	[01810] Pre-Commissioning Electronic Configuration Files and Tracking List	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16340-Medium-Voltage Switchgear	[01810] ORT and FAT Electronic Configuration Files and Tracking List	1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
16-16340-Medium-Voltage Switchgear	[01820] Training - Lesson Plans and Trainer Quals	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16340-Medium-Voltage Switchgear	[01820] Training - Material Prior to Sessions	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16341-Bus Duct	Shop Drawings	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16341-Bus Duct	Mfr Installation and Testing Procedures	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16341-Bus Duct	[01783] As-Built Individual ESM	1st package to be commissi	4.5 - Beneficial Occupancy	25	3 - Prior to Start of Commissioni	Facility Record	ESM
16-16341-Bus Duct	[01810] COPO	1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
16-16341-Bus Duct	Mfr Factory Test Procedures and Report	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16341-Bus Duct	Bus Duct Connection Compatibility Certification	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16341-Bus Duct	[01332] Seismic Calcs	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16341-Bus Duct	[01783] Draft Individual ESM	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16341-Bus Duct	[01783] Final Individual ESM	1st package to be commissi	4.2 - Pre-ORT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
16-16341-Bus Duct	[01810] Mfr Service Rep Qualifications	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16341-Bus Duct	[01810] COPI	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16345-Cable Bus-600 V and Below	Shop Drawings	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16345-Cable Bus-600 V and Below	[01332] Seismic Calculations	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16346-Medium-Voltage Load Interrupter Switches	Shop Drawings	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16346-Medium-Voltage Load Interrupter Switches	Field Inspection Procedures	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16346-Medium-Voltage Load Interrupter Switches	[01783] As-Built Individual ESM	1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Facility Record	ESM
16-16346-Medium-Voltage Load Interrupter Switches	[01810] COPO	1st package to be commissi	4.5 - Beneficial Occupancy	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
16-16346-Medium-Voltage Load Interrupter Switches	[01820] Training - Material Used in Sessions	1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
16-16346-Medium-Voltage Load Interrupter Switches	[01820] Training Videos	1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
16-16346-Medium-Voltage Load Interrupter Switches	Factory Test Procedures and Reports	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16346-Medium-Voltage Load Interrupter Switches	[01783] Draft Individual ESM	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16346-Medium-Voltage Load Interrupter Switches	[01783] Final Individual ESM	1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
16-16346-Medium-Voltage Load Interrupter Switches	[01810] Mfr Service Rep Qualifications	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16346-Medium-Voltage Load Interrupter Switches	[01810] COPI	1st package to be commissi	4.2 - Pre-ORT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
16-16346-Medium-Voltage Load Interrupter Switches	[01820] Training - Lesson Plans and Trainer Quals	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16346-Medium-Voltage Load Interrupter Switches	[01820] Training - Material Prior to Sessions	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16350-Medium-Voltage Motor Controller	Shop Drawings	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16350-Medium-Voltage Motor Controller	[01783] As-Built Individual ESM	1st package to be commissi	4.5 - Beneficial Occupancy	25	3 - Prior to Start of Commissioni	Facility Record	ESM
16-16350-Medium-Voltage Motor Controller	[01810] Completed FDT1 Documents	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16350-Medium-Voltage Motor Controller	[01810] Completed FDT2 Documents	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Test Results
16-16350-Medium-Voltage Motor Controller	[01810] COPO	1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
16-16350-Medium-Voltage Motor Controller	[01810] RAT Electronic Configuration Files and Tracking List	1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Facility Record	Electronic Config Files
16-16350-Medium-Voltage Motor Controller	[01820] Training - Material Used in Sessions	1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
16-16350-Medium-Voltage Motor Controller	[01820] Training Videos	1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
16-16350-Medium-Voltage Motor Controller	Certified Factory Test Report	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16350-Medium-Voltage Motor Controller	Installation Instructions	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16350-Medium-Voltage Motor Controller	[01332] Seismic Calculations	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16350-Medium-Voltage Motor Controller	[01783] Draft Individual ESM	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16350-Medium-Voltage Motor Controller	[01783] Final Individual ESM	1st package to be commissi	4.2 - Pre-ORT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
16-16350-Medium-Voltage Motor Controller	[01810] FDT Plan and Procedures	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16350-Medium-Voltage Motor Controller	[01810] Mfr Service Rep Qualifications	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16350-Medium-Voltage Motor Controller	[01810] COPI	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16350-Medium-Voltage Motor Controller	[01810] Pre-Commissioning Electronic Configuration Files and Tracking List	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16350-Medium-Voltage Motor Controller	[01810] ORT and FAT Electronic Configuration Files and Tracking List	1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
16-16350-Medium-Voltage Motor Controller	[01820] Training - Lesson Plans and Trainer Quals	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16350-Medium-Voltage Motor Controller	[01820] Training - Material Prior to Sessions	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16418-Variable Frequency Drives Below 100 hp	Shop Drawings	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16418-Variable Frequency Drives Below 100 hp	Pre-Factory Electronic Configuration Files and Software	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Electronic Config Files

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Exhibit 18 - Master Construction Submittal Items List

16-16418-Variable Frequency Drives Below 100 hp	Mfr Support Information	1st package to be commissi	4.5 - Beneficial Occupancy	25	3 - Prior to Start of Commissioni	Facility Record	Shop Drawings	
16-16418-Variable Frequency Drives Below 100 hp	Test Documentation	1st package to be commissi	4.6 - Substantial Completion	25	3 - Prior to Start of Commissioni	Facility Record	Test Results	
16-16418-Variable Frequency Drives Below 100 hp	Special Tools	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Special Tools	
16-16418-Variable Frequency Drives Below 100 hp	[01332] Seismic Calculations	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings	
16-16418-Variable Frequency Drives Below 100 hp	[01783] As-Built Individual ESM	1st package to be commissi	4.5 - Beneficial Occupancy	25	3 - Prior to Start of Commissioni	Facility Record	ESM	
16-16418-Variable Frequency Drives Below 100 hp	[01810] Completed FDT1 Documents	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File	
16-16418-Variable Frequency Drives Below 100 hp	[01810] Completed FDT2 Documents	Ask Bob Holdman if we	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Test Results
16-16418-Variable Frequency Drives Below 100 hp	[01810] COPO	1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File	
16-16418-Variable Frequency Drives Below 100 hp	[01810] RAT Electronic Configuration Files and Tracking List	1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Facility Record	Electronic Config Files	
16-16418-Variable Frequency Drives Below 100 hp	[01820] Training - Material Used in Sessions	1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials	
16-16418-Variable Frequency Drives Below 100 hp	[01820] Training Videos	1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials	
16-16418-Variable Frequency Drives Below 100 hp	Certified Factory Test Report	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings	
16-16418-Variable Frequency Drives Below 100 hp	VFD Prog Software and Guides/Manuals	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File	
16-16418-Variable Frequency Drives Below 100 hp	Harmonic Measurement Report	1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File	
16-16418-Variable Frequency Drives Below 100 hp	[01783] Draft Individual ESM	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File	
16-16418-Variable Frequency Drives Below 100 hp	[01783] Final Individual ESM	1st package to be commissi	4.2 - Pre-ORT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File	
16-16418-Variable Frequency Drives Below 100 hp	[01810] FDT Plan and Procedures	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File	
16-16418-Variable Frequency Drives Below 100 hp	[01810] Mfr Service Rep Qualifications	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File	
16-16418-Variable Frequency Drives Below 100 hp	[01810] COPI	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File	
16-16418-Variable Frequency Drives Below 100 hp	[01810] Pre-Commissioning Electronic Configuration Files and Tracking List	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File	
16-16418-Variable Frequency Drives Below 100 hp	[01810] ORT and FAT Electronic Configuration Files and Tracking List	1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File	
16-16418-Variable Frequency Drives Below 100 hp	[01820] Training - Lesson Plans and Trainer Quals	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File	
16-16418-Variable Frequency Drives Below 100 hp	[01820] Training - Material Prior to Sessions	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File	
16-16419-Variable Frequency Drives 100 hp and Above	Shop Drawings	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings	
16-16419-Variable Frequency Drives 100 hp and Above	VFD Prog Software and Guides/Manuals	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings	
16-16419-Variable Frequency Drives 100 hp and Above	Mfr Support Information	1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Facility Record	Shop Drawings	
16-16419-Variable Frequency Drives 100 hp and Above	Test Documentation	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Test Results	
16-16419-Variable Frequency Drives 100 hp and Above	Special Tools	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Special Tools	
16-16419-Variable Frequency Drives 100 hp and Above	[01332] Seismic Calculations	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings	
16-16419-Variable Frequency Drives 100 hp and Above	[01783] As-Built Individual ESM	1st package to be commissi	4.5 - Beneficial Occupancy	25	3 - Prior to Start of Commissioni	Facility Record	ESM	
16-16419-Variable Frequency Drives 100 hp and Above	[01810] Completed FDT1 Documents	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File	
16-16419-Variable Frequency Drives 100 hp and Above	[01810] Completed FDT2 Documents	Ask Bob Holdman if we	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Test Results
16-16419-Variable Frequency Drives 100 hp and Above	[01810] COPO	1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File	
16-16419-Variable Frequency Drives 100 hp and Above	[01810] RAT Electronic Configuration Files and Tracking List	1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Facility Record	Electronic Config Files	
16-16419-Variable Frequency Drives 100 hp and Above	[01820] Training - Material Used in Sessions	1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials	
16-16419-Variable Frequency Drives 100 hp and Above	[01820] Training Videos	1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials	
16-16419-Variable Frequency Drives 100 hp and Above	Certified Factory Test Report	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings	
16-16419-Variable Frequency Drives 100 hp and Above	Pre-Factory Electronic Configuration Files and Software	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File	
16-16419-Variable Frequency Drives 100 hp and Above	Harmonic Measurement Report	1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File	
16-16419-Variable Frequency Drives 100 hp and Above	[01783] Draft Individual ESM	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File	
16-16419-Variable Frequency Drives 100 hp and Above	[01783] Final Individual ESM	1st package to be commissi	4.2 - Pre-ORT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File	
16-16419-Variable Frequency Drives 100 hp and Above	[01810] FDT Plan and Procedures	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File	
16-16419-Variable Frequency Drives 100 hp and Above	[01810] Mfr Service Rep Qualifications	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File	
16-16419-Variable Frequency Drives 100 hp and Above	[01810] COPI	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File	
16-16419-Variable Frequency Drives 100 hp and Above	[01810] Pre-Commissioning Electronic Configuration Files and Tracking List	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File	
16-16419-Variable Frequency Drives 100 hp and Above	[01810] ORT and FAT Electronic Configuration Files and Tracking List	1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File	
16-16419-Variable Frequency Drives 100 hp and Above	[01820] Training - Lesson Plans and Trainer Quals	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File	
16-16419-Variable Frequency Drives 100 hp and Above	[01820] Training - Material Prior to Sessions	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File	
16-16420-Medium-Voltage Variable Frequency Drives	Shop Drawings	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings	
16-16420-Medium-Voltage Variable Frequency Drives	Mfr Support Information	1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Facility Record	Shop Drawings	
16-16420-Medium-Voltage Variable Frequency Drives	Special Tools	1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Facility Record	Special Tools	
16-16420-Medium-Voltage Variable Frequency Drives	[01332] Seismic Calculations	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings	
16-16420-Medium-Voltage Variable Frequency Drives	[01783] As-Built Individual ESM	1st package to be commissi	4.5 - Beneficial Occupancy	25	3 - Prior to Start of Commissioni	Facility Record	ESM	
16-16420-Medium-Voltage Variable Frequency Drives	[01810] Completed FDT1 Documents	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File	
16-16420-Medium-Voltage Variable Frequency Drives	[01810] Completed FDT2 Documents	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Test Results	
16-16420-Medium-Voltage Variable Frequency Drives	[01810] COPO	1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File	
16-16420-Medium-Voltage Variable Frequency Drives	[01810] RAT Electronic Configuration Files and Tracking List	1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Facility Record	Electronic Config Files	
16-16420-Medium-Voltage Variable Frequency Drives	[01820] Training - Material Used in Sessions	1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials	
16-16420-Medium-Voltage Variable Frequency Drives	[01820] Training Videos	1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials	
16-16420-Medium-Voltage Variable Frequency Drives	Certified Factory Test Report	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings	
16-16420-Medium-Voltage Variable Frequency Drives	Pre-Factory Electronic Configuration Files and Software	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File	

PROJECT NAME AND NUMBER
Attachment A - Scope of Work
Exhibit 18 - Master Construction Submittal Items List

16-16420-Medium-Voltage Variable Frequency Drives	Test Documentation		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16420-Medium-Voltage Variable Frequency Drives	Torsional Vibration Study		1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
16-16420-Medium-Voltage Variable Frequency Drives	Harmonic Measurement Report		1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
16-16420-Medium-Voltage Variable Frequency Drives	[01783] Draft Individual ESM		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16420-Medium-Voltage Variable Frequency Drives	[01783] Final Individual ESM		1st package to be commissi	4.2 - Pre-ORT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
16-16420-Medium-Voltage Variable Frequency Drives	[01810] FDT Plan and Procedures		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16420-Medium-Voltage Variable Frequency Drives	[01810] Mfr Service Rep Qualifications		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16420-Medium-Voltage Variable Frequency Drives	[01810] COPI		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16420-Medium-Voltage Variable Frequency Drives	[01810] Pre-Commissioning Electronic Configuration Files and Tracking List		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16420-Medium-Voltage Variable Frequency Drives	[01810] ORT and FAT Electronic Configuration Files and Tracking List		1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
16-16420-Medium-Voltage Variable Frequency Drives	[01820] Training - Lesson Plans and Trainer Quals		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16420-Medium-Voltage Variable Frequency Drives	[01820] Training - Material Prior to Sessions		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16430-Low-Voltage Switchgear	Shop Drawings		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16430-Low-Voltage Switchgear	Certified Factory Test Report		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16430-Low-Voltage Switchgear	[01332] Seismic Calculations		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16430-Low-Voltage Switchgear	[01783] As-Built Individual ESM		1st package to be commissi	4.5 - Beneficial Occupancy	25	3 - Prior to Start of Commissioni	Facility Record	ESM
16-16430-Low-Voltage Switchgear	[01810] Completed FDT1 Documents		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16430-Low-Voltage Switchgear	[01810] Completed FDT2 Documents		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Test Results
16-16430-Low-Voltage Switchgear	[01810] COPO		1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
16-16430-Low-Voltage Switchgear	[01810] RAT Electronic Configuration Files and Tracking List		1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Facility Record	Electronic Config Files
16-16430-Low-Voltage Switchgear	[01820] Training - Material Used in Sessions		1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
16-16430-Low-Voltage Switchgear	[01820] Training Videos		1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
16-16430-Low-Voltage Switchgear	Bus Transfer Instruction Plate Description		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16430-Low-Voltage Switchgear	Installation Instructions		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16430-Low-Voltage Switchgear	Certification of Compliance with Swgr Temp Rise		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16430-Low-Voltage Switchgear	QA Program Documentation		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16430-Low-Voltage Switchgear	[01783] Draft Individual ESM		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16430-Low-Voltage Switchgear	[01783] Final Individual ESM		1st package to be commissi	4.2 - Pre-ORT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
16-16430-Low-Voltage Switchgear	[01810] FDT Plan and Procedures		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16430-Low-Voltage Switchgear	[01810] Mfr Service Rep Qualifications		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16430-Low-Voltage Switchgear	[01810] COPI		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16430-Low-Voltage Switchgear	[01810] Pre-Commissioning Electronic Configuration Files and Tracking List		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16430-Low-Voltage Switchgear	[01810] ORT and FAT Electronic Configuration Files and Tracking List		1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
16-16430-Low-Voltage Switchgear	[01820] Training - Lesson Plans and Trainer Quals		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16430-Low-Voltage Switchgear	[01820] Training - Material Prior to Sessions		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16431-Electrical System Analyses and Measurements	Equipment Nameplate Data		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16431-Electrical System Analyses and Measurements	Protective Device Data		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16431-Electrical System Analyses and Measurements	Power Cable As-Built Data		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	As-Built
16-16431-Electrical System Analyses and Measurements	Harmonic Measurement Report		1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Facility Record	Shop Drawings
16-16431-Electrical System Analyses and Measurements	Proposed Substitutions		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16445-High-Resistance Grounding Equipment	Shop Drawings		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16445-High-Resistance Grounding Equipment	[01783] As-Built Individual ESM		1st package to be commissi	4.5 - Beneficial Occupancy	25	3 - Prior to Start of Commissioni	Facility Record	ESM
16-16445-High-Resistance Grounding Equipment	[01810] COPO		1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
16-16445-High-Resistance Grounding Equipment	[01810] RAT Electronic Configuration Files and Tracking List		1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Facility Record	Electronic Config Files
16-16445-High-Resistance Grounding Equipment	[01820] Training - Material Used in Sessions		1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
16-16445-High-Resistance Grounding Equipment	[01820] Training Videos		1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
16-16445-High-Resistance Grounding Equipment	Factory Test Procedures and Reports		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16445-High-Resistance Grounding Equipment	Installation Instructions		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16445-High-Resistance Grounding Equipment	[01332] Seismic Calculations		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16445-High-Resistance Grounding Equipment	[01783] Draft Individual ESM		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16445-High-Resistance Grounding Equipment	[01783] Final Individual ESM		1st package to be commissi	4.2 - Pre-ORT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
16-16445-High-Resistance Grounding Equipment	[01810] Mfr Service Rep Qualifications		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16445-High-Resistance Grounding Equipment	[01810] COPI		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16445-High-Resistance Grounding Equipment	[01810] Pre-Commissioning Electronic Configuration Files and Tracking List		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16445-High-Resistance Grounding Equipment	[01810] ORT and FAT Electronic Configuration Files and Tracking List		1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
16-16445-High-Resistance Grounding Equipment	[01820] Training - Lesson Plans and Trainer Quals		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16445-High-Resistance Grounding Equipment	[01820] Training - Material Prior to Sessions		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16480-Low-Voltage Motor Control Centers	Shop Drawings		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16480-Low-Voltage Motor Control Centers	[01332] Seismic Calculations	This requirement could	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16480-Low-Voltage Motor Control Centers	[01783] As-Built Individual ESM		1st package to be commissi	4.5 - Beneficial Occupancy	25	3 - Prior to Start of Commissioni	Facility Record	ESM

PROJECT NAME AND NUMBER

Attachment A - Scope of Work

Exhibit 18 - Master Construction Submittal Items List

16-16480-Low-Voltage Motor Control Centers	[01810] Completed FDT1 Documents	Add reference to this spec	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16480-Low-Voltage Motor Control Centers	[01810] Completed FDT2 Documents	Add reference to this spec	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Test Results
16-16480-Low-Voltage Motor Control Centers	[01810] COPO	Add reference to this spec	1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
16-16480-Low-Voltage Motor Control Centers	[01810] RAT Electronic Configuration Files and Tracking List		1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Facility Record	Electronic Config Files
16-16480-Low-Voltage Motor Control Centers	[01820] Training - Material Used in Sessions	Add reference to this spec	1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
16-16480-Low-Voltage Motor Control Centers	[01820] Training Videos		1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
16-16480-Low-Voltage Motor Control Centers	Certified Factory Test Report		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16480-Low-Voltage Motor Control Centers	[01783] Draft Individual ESM	Add reference to this spec	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16480-Low-Voltage Motor Control Centers	[01783] Final Individual ESM	Add reference to this spec	1st package to be commissi	4.2 - Pre-ORT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
16-16480-Low-Voltage Motor Control Centers	[01810] FDT Plan and Procedures	Add reference to this spec	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16480-Low-Voltage Motor Control Centers	[01810] Mfr Service Rep Qualifications	Add reference to this spec	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16480-Low-Voltage Motor Control Centers	[01810] COPI	Add reference to this spec	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16480-Low-Voltage Motor Control Centers	[01810] Pre-Commissioning Electronic Configuration Files and Tracking List		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16480-Low-Voltage Motor Control Centers	[01810] ORT and FAT Electronic Configuration Files and Tracking List		1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
16-16480-Low-Voltage Motor Control Centers	[01820] Training - Lesson Plans and Trainer Quals	Add reference to this spec	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16480-Low-Voltage Motor Control Centers	[01820] Training - Material Prior to Sessions	Add reference to this spec	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16490-Automatic Transfer and Bypass-Isolation Switch	Shop Drawings		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16490-Automatic Transfer and Bypass-Isolation Switch	Pre-Factory Electronic Configuration Files and Software		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16490-Automatic Transfer and Bypass-Isolation Switch	Installation Instructions		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16490-Automatic Transfer and Bypass-Isolation Switch	Special Tools		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Special Tools
16-16490-Automatic Transfer and Bypass-Isolation Switch	[01783] As-Built Individual ESM		1st package to be commissi	4.5 - Beneficial Occupancy	25	3 - Prior to Start of Commissioni	Facility Record	ESM
16-16490-Automatic Transfer and Bypass-Isolation Switch	[01810 and 16490] COPO and Field Test Results		1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Facility Record	Shop Drawings
16-16490-Automatic Transfer and Bypass-Isolation Switch	[01810] RAT Electronic Configuration Files and Tracking List		1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Facility Record	Electronic Config Files
16-16490-Automatic Transfer and Bypass-Isolation Switch	[01820] Training - Material Used in Sessions		1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
16-16490-Automatic Transfer and Bypass-Isolation Switch	[01820] Training Videos		1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
16-16490-Automatic Transfer and Bypass-Isolation Switch	Certified Factory Test Report		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16490-Automatic Transfer and Bypass-Isolation Switch	Field Service Support Information		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16490-Automatic Transfer and Bypass-Isolation Switch	[01332] Seismic Calcs		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16490-Automatic Transfer and Bypass-Isolation Switch	[01783] Draft Individual ESM		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16490-Automatic Transfer and Bypass-Isolation Switch	[01783] Final Individual ESM		1st package to be commissi	4.2 - Pre-ORT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
16-16490-Automatic Transfer and Bypass-Isolation Switch	[01810] Mfr Service Rep Qualifications		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16490-Automatic Transfer and Bypass-Isolation Switch	[01810] COPI		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16490-Automatic Transfer and Bypass-Isolation Switch	[01810] Pre-Commissioning Electronic Configuration Files and Tracking List		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16490-Automatic Transfer and Bypass-Isolation Switch	[01810] ORT and FAT Electronic Configuration Files and Tracking List		1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
16-16490-Automatic Transfer and Bypass-Isolation Switch	[01820] Training - Lesson Plans and Trainer Quals		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16490-Automatic Transfer and Bypass-Isolation Switch	[01820] Training - Material Prior to Sessions		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16491-Automatic Transfer Switch	Shop Drawings		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16491-Automatic Transfer Switch	Pre-Factory Electronic Configuration Files and Software		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16491-Automatic Transfer Switch	Installation Instructions		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16491-Automatic Transfer Switch	Special Tools		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Special Tools
16-16491-Automatic Transfer Switch	Field Service Support Information		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16491-Automatic Transfer Switch	[01783] As-Built Individual ESM		1st package to be commissi	4.5 - Beneficial Occupancy	25	3 - Prior to Start of Commissioni	Facility Record	ESM
16-16491-Automatic Transfer Switch	[01810] COPO		1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
16-16491-Automatic Transfer Switch	[01810] RAT Electronic Configuration Files and Tracking List		1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Facility Record	Electronic Config Files
16-16491-Automatic Transfer Switch	[01820] Training - Material Used in Sessions		1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
16-16491-Automatic Transfer Switch	[01820] Training Videos		1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
16-16491-Automatic Transfer Switch	Certified Factory Test Report		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16491-Automatic Transfer Switch	[01332] Seismic Calculations		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16491-Automatic Transfer Switch	[01783] Draft Individual ESM		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16491-Automatic Transfer Switch	[01783] Final Individual ESM		1st package to be commissi	4.2 - Pre-ORT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File

PROJECT NAME AND NUMBER
Attachment A - Scope of Work
Exhibit 18 - Master Constrution Submittal Items List

16-16491-Automatic Transfer Switch	[01810] Mfr Service Rep Qualifications		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16491-Automatic Transfer Switch	[01810] COPI		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16491-Automatic Transfer Switch	[01810] Pre-Commissioning Electronic Configuration Files and Tracking List		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16491-Automatic Transfer Switch	[01810] ORT and FAT Electronic Configuration Files and Tracking List		1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
16-16491-Automatic Transfer Switch	[01820] Training - Lesson Plans and Trainer Quals		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16491-Automatic Transfer Switch	[01820] Training - Material Prior to Sessions		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16500-Lighting	Product Data		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16500-Lighting	Shop Drawings		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16500-Lighting	[01332] Seismic Calculations		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16500-Lighting	[01783] As-Built Individual ESM		1st package to be commissi	4.5 - Beneficial Occupancy	25	3 - Prior to Start of Commissioni	Facility Record	ESM
16-16500-Lighting	[01783] Draft Individual ESM		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16500-Lighting	[01783] Final Individual ESM		1st package to be commissi	4.2 - Pre-ORT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
16-16710-Communications Cabling System for Offices	Product Data		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16710-Communications Cabling System for Offices	Installation Details Drawing		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16710-Communications Cabling System for Offices	Field Test Results		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Test Results
16-16710-Communications Cabling System for Offices	As-Built Floor Plans		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	As-Built
16-16710-Communications Cabling System for Offices	Firestop System Drawing		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16710-Communications Cabling System for Offices	Certification		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16720-Communications Cabling System for Outside Plant	Product Data		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16720-Communications Cabling System for Outside Plant	Installation Details Drawing		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16720-Communications Cabling System for Outside Plant	Field Test Results		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Test Results
16-16720-Communications Cabling System for Outside Plant	As-Built Floor Plans		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	As-Built
16-16720-Communications Cabling System for Outside Plant	Firestop System Drawing		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16720-Communications Cabling System for Outside Plant	Certification		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16821-Public Address System	Shop Drawings		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16821-Public Address System	PA System Drawings		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16821-Public Address System	Cable and Conduit Schedule		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
16-16821-Public Address System	Operational Test Plan		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Test Results
16-16821-Public Address System	Field Test Results		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Test Results
16-16821-Public Address System	As-Built Floor Plans		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	As-Built
16-16821-Public Address System	Existing OC San PA Drawing Revisions		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Engineering Drawing
16-16821-Public Address System	[01783] As-Built Individual ESM		1st package to be commissi	4.5 - Beneficial Occupancy	25	3 - Prior to Start of Commissioni	Facility Record	ESM
16-16821-Public Address System	[01810] COPO		1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
16-16821-Public Address System	[01810] RAT Electronic Configuration Files and Tracking List		1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Facility Record	Electronic Config Files
16-16821-Public Address System	[01820] Training - Material Used in Sessions		1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
16-16821-Public Address System	[01820] Training Videos		1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
16-16821-Public Address System	[01783] Draft Individual ESM		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16821-Public Address System	[01783] Final Individual ESM		1st package to be commissi	4.2 - Pre-ORT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
16-16821-Public Address System	[01810] Mfr Service Rep Qualifications		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16821-Public Address System	[01810] COPI		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16821-Public Address System	[01810] Pre-Commissioning Electronic Configuration Files and Tracking List		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16821-Public Address System	[01810] ORT and FAT Electronic Configuration Files and Tracking List		1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
16-16821-Public Address System	[01820] Training - Lesson Plans and Trainer Quals		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
16-16821-Public Address System	[01820] Training - Material Prior to Sessions		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17010-Instrumentation and Controls General Provisions	[17010] Shop Drawings, Product Data, and Data Sheets	Master list only. Includ	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
17-17010-Instrumentation and Controls General Provisions	[17010] Special Tools	Master list only. Includ	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Special Tools
17-17010-Instrumentation and Controls General Provisions	[17010] O&M Manuals and Installation Drawings	Master list only. Includ	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
17-17010-Instrumentation and Controls General Provisions	Loop Drawings		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Engineering Drawing
17-17010-Instrumentation and Controls General Provisions	[17010] Factory Electronic Configuration Files and Software	Master list only. Includ	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17010-Instrumentation and Controls General Provisions	[01810] COPO	Master list only. Includ	TBD	4.4 - RAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
17-17010-Instrumentation and Controls General Provisions	[01783] As-Built Individual ESM	Master list only. Includ	TBD	4.5 - Beneficial Occupancy	25	3 - Prior to Start of Commissioni	Facility Record	ESM
17-17010-Instrumentation and Controls General Provisions	[01810] RAT Electronic Configuration Files and Tracking List	Master list only. Includ	TBD	4.4 - RAT	25	3 - Prior to Start of Commissioni	Facility Record	Electronic Config Files
17-17010-Instrumentation and Controls General Provisions	[01820] Training - Material Used in Sessions	Master list only. Includ	TBD	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
17-17010-Instrumentation and Controls General Provisions	[01820] Training Videos	Master list only. Includ	TBD	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
17-17010-Instrumentation and Controls General Provisions	As-Built Instrumentation Index		1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Facility Record	Shop Drawings
17-17010-Instrumentation and Controls General Provisions	Instrumentation Schedule		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17010-Instrumentation and Controls General Provisions	[01810 and 17010] Factory Calibration Results	Master list only. Includ	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17010-Instrumentation and Controls General Provisions	[01810] Mfr Service Rep Qualifications	Master list only. Includ	TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17010-Instrumentation and Controls General Provisions	[01810] COPI	Master list only. Includ	TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17010-Instrumentation and Controls General Provisions	[01783] Draft Individual ESM	Master list only. Includ	TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17010-Instrumentation and Controls General Provisions	[01783] Final Individual ESM	Master list only. Includ	TBD	4.2 - Pre-ORT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File

Attachment A - Scope of Work

3 - Master Constrution Submittal Items List

s and Tracking List Master list only. Includ TBD

17-17010-Instrumentation and Controls General Provisions	[01810] Pre-Commissioning Electronic Configuration Files and Tracking List	Master list only. Includ TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17010-Instrumentation and Controls General Provisions	[01810] ORT and FAT Electronic Configuration Files and Tracking List	Master list only. Includ TBD	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioning	Project File	Engineering Project File
17-17010-Instrumentation and Controls General Provisions	[01820] Training - Lesson Plans and Trainer Quals	Master list only. Includ TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17010-Instrumentation and Controls General Provisions	[01820] Training - Material Prior to Sessions	Master list only. Includ TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17034-Gauges	[01783] As-Built Individual ESM	1st package to be commissioned	4.5 - Beneficial Occupancy	25	3 - Prior to Start of Commissioning	Facility Record	ESM
17-17034-Gauges	[17010] Product Data and Data Sheets	1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
17-17034-Gauges	[17010] Factory Calibration Results	1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17034-Gauges	[01783] Draft Individual ESM	1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17034-Gauges	[01783] Final Individual ESM	1st package to be commissioned	4.2 - Pre-ORT	25	3 - Prior to Start of Commissioning	Project File	Engineering Project File
17-17050-Level Measurement	[01783] As-Built Individual ESM	1st package to be commissioned	4.5 - Beneficial Occupancy	25	3 - Prior to Start of Commissioning	Facility Record	ESM
17-17050-Level Measurement	[01810] COPO	1st package to be commissioned	4.4 - RAT	25	3 - Prior to Start of Commissioning	Project File	Engineering Project File
17-17050-Level Measurement	[01810] RAT Electronic Configuration Files and Tracking List	1st package to be commissioned	4.4 - RAT	25	3 - Prior to Start of Commissioning	Facility Record	Electronic Config Files
17-17050-Level Measurement	[01820] Training - Material Used in Sessions	1st package to be commissioned	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioning	Facility Record	Training Materials
17-17050-Level Measurement	[01820] Training Videos	1st package to be commissioned	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioning	Facility Record	Training Materials
17-17050-Level Measurement	[17010] Shop Drawings, Product Data and Data Sheets	1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
17-17050-Level Measurement	[17010] Special Tools	1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Special Tools
17-17050-Level Measurement	[17010] Factory Electronic Config Files and Software	1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17050-Level Measurement	[01783] Draft Individual ESM	1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17050-Level Measurement	[01783] Final Individual ESM	1st package to be commissioned	4.2 - Pre-ORT	25	3 - Prior to Start of Commissioning	Project File	Engineering Project File
17-17050-Level Measurement	[01810] Mfr Service Rep Qualifications	1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17050-Level Measurement	[01810] COPI	1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17050-Level Measurement	[01810] Pre-Commissioning Electronic Configuration Files and Tracking List	1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17050-Level Measurement	[01810] ORT and FAT Electronic Configuration Files and Tracking List	1st package to be commissioned	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioning	Project File	Engineering Project File
17-17050-Level Measurement	[01820] Training - Lesson Plans and Trainer Quals	1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17050-Level Measurement	[01820] Training - Material Prior to Sessions	1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17050-Level Measurement	[17010] O&M Manuals and Installation Drawings	1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
17-17050-Level Measurement	[17010] Factory Calibration Results	1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17060-Pressure Measurement	[01783] As-Built Individual ESM	1st package to be commissioned	4.4 - RAT	25	3 - Prior to Start of Commissioning	Facility Record	ESM
17-17060-Pressure Measurement	[01810] COPO	1st package to be commissioned	4.4 - RAT	25	3 - Prior to Start of Commissioning	Project File	Engineering Project File
17-17060-Pressure Measurement	[01810] RAT Electronic Configuration Files and Tracking List	1st package to be commissioned	4.5 - Beneficial Occupancy	25	3 - Prior to Start of Commissioning	Facility Record	Electronic Config Files
17-17060-Pressure Measurement	[01820] Training - Material Used in Sessions	1st package to be commissioned	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioning	Facility Record	Training Materials
17-17060-Pressure Measurement	[01820] Training Videos	1st package to be commissioned	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioning	Facility Record	Training Materials
17-17060-Pressure Measurement	[17010] Shop Drawings, Product Data and Data Sheets	1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
17-17060-Pressure Measurement	[17010] Special Tools	1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Special Tools
17-17060-Pressure Measurement	[17010] Factory Electronic Config Files and Software	1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17060-Pressure Measurement	[01783] Individual Draft ESM	1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17060-Pressure Measurement	[01783] Individual Finalized ESM	1st package to be commissioned	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioning	Project File	Engineering Project File
17-17060-Pressure Measurement	[01810] Mfr Service Rep Qualifications	1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17060-Pressure Measurement	[01810] COPI	1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17060-Pressure Measurement	[01810] Pre-Commissioning Electronic Configuration Files and Tracking List	1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17060-Pressure Measurement	[01810] ORT and FAT Electronic Configuration Files and Tracking List	1st package to be commissioned	4.2 - Pre-ORT	25	3 - Prior to Start of Commissioning	Project File	Engineering Project File
17-17060-Pressure Measurement	[01820] Training - Lesson Plans and Trainer Quals	1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17060-Pressure Measurement	[01820] Training - Material Prior to Sessions	1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17060-Pressure Measurement	[17010] O&M Manuals and Installation Drawings	1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
17-17060-Pressure Measurement	[17010] Factory Calibration Results	1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17070-Temperature Measurement	[01783] As-Built Individual ESM	1st package to be commissioned	4.5 - Beneficial Occupancy	25	3 - Prior to Start of Commissioning	Facility Record	ESM
17-17070-Temperature Measurement	[01810] COPO	1st package to be commissioned	4.4 - RAT	25	3 - Prior to Start of Commissioning	Project File	Engineering Project File
17-17070-Temperature Measurement	[01810] RAT Electronic Configuration Files and Tracking List	1st package to be commissioned	4.4 - RAT	25	3 - Prior to Start of Commissioning	Facility Record	Electronic Config Files
17-17070-Temperature Measurement	[01820] Training - Material Used in Sessions	1st package to be commissioned	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioning	Facility Record	Training Materials
17-17070-Temperature Measurement	[01820] Training Videos	1st package to be commissioned	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioning	Facility Record	Training Materials
17-17070-Temperature Measurement	[17010] Shop Drawings, Product Data and Data Sheets	1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
17-17070-Temperature Measurement	[17010] Special Tools	1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Special Tools
17-17070-Temperature Measurement	[17010] Factory Electronic Config Files and Software	1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17070-Temperature Measurement	[01783] Draft Individual ESM	1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17070-Temperature Measurement	[01783] Final Individual ESM	1st package to be commissioned	4.2 - Pre-ORT	25	3 - Prior to Start of Commissioning	Project File	Engineering Project File
17-17070-Temperature Measurement	[01810] Mfr Service Rep Qualifications	1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17070-Temperature Measurement	[01810] COPI	1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17070-Temperature Measurement	[01810] Pre-Commissioning Electronic Configuration Files and Tracking List	1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17070-Temperature Measurement	[01810] ORT and FAT Electronic Configuration Files and Tracking List	1st package to be commissioned	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioning	Project File	Engineering Project File
17-17070-Temperature Measurement	[01820] Training - Lesson Plans and Trainer Quals	1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17070-Temperature Measurement	[01820] Training - Material Prior to Sessions	1st package to be commissioned	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File

Exhibit 18 - Master Construction Submittal Items List

17-17070-Temperature Measurement	[17010] O&M Manuals and Installation Drawings		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
17-17070-Temperature Measurement	[17010] Factory Calibration Results		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17075-Equipment, Panel, Instrumentation Nameplates and Tags	Nameplate Schedule and Product Data		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17075-Equipment, Panel, Instrumentation Nameplates and Tags	Samples		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17150-Meters, General	[17010] Shop Drawings, Product Data and Data Sheets	Master list only. Don't	TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
17-17150-Meters, General	[17010] Special Tools	Master list only. Don't	TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Special Tools
17-17150-Meters, General	[17010] Factory Electronic Config Files and Software	Master list only. Don't	TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17150-Meters, General	[01810] COPO	Master list only. Don't	TBD	4.4 - RAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
17-17150-Meters, General	[01783] As-Built Individual ESM		TBD	4.5 - Beneficial Occupancy	25	3 - Prior to Start of Commissioni	Facility Record	ESM
17-17150-Meters, General	[01810] RAT Electronic Configuration Files and Tracking List		TBD	4.4 - RAT	25	3 - Prior to Start of Commissioni	Facility Record	Electronic Config Files
17-17150-Meters, General	[01820] Training - Material Used in Sessions	Master list only. Don't	TBD	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
17-17150-Meters, General	[01820] Training Videos		TBD	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
17-17150-Meters, General	[17010] O&M Manuals and Installation Drawings	Master list only. Don't	TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
17-17150-Meters, General	[17010] Factory Calibration Results	Master list only. Don't	TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17150-Meters, General	[01810] Mfr Service Rep Qualifications	Master list only. Don't	TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17150-Meters, General	[01810] COPI	Master list only. Don't	TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17150-Meters, General	[01783] Draft Individual ESM	Master list only. Don't	TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17150-Meters, General	[01783] Final Individual ESM	Master list only. Don't	TBD	4.2 - Pre-ORT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
17-17150-Meters, General	[01810] Pre-Commissioning Electronic Configuration Files and Tracking List		TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17150-Meters, General	[01810] ORT and FAT Electronic Configuration Files and Tracking List		TBD	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
17-17150-Meters, General	[01820] Training - Lesson Plans and Trainer Quals	Master list only. Don't	TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17150-Meters, General	[01820] Training - Material Prior to Sessions	Master list only. Don't	TBD	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17156-Magnetic Flowmeters	[01783] As-Built Individual ESM		1st package to be commissi	4.5 - Beneficial Occupancy	25	3 - Prior to Start of Commissioni	Facility Record	ESM
17-17156-Magnetic Flowmeters	[01810] COPO	Per package	1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
17-17156-Magnetic Flowmeters	[01810] RAT Electronic Configuration Files and Tracking List		1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Facility Record	Electronic Config Files
17-17156-Magnetic Flowmeters	[01820] Training - Material Used in Sessions	Common	1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
17-17156-Magnetic Flowmeters	[01820] Training Videos		1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
17-17156-Magnetic Flowmeters	[17010] Shop Drawings, Product Data and Data Sheets	Common	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
17-17156-Magnetic Flowmeters	[17010] Special Tools	Common	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Special Tools
17-17156-Magnetic Flowmeters	[17010] Factory Electronic Config Files and Software	Per package	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17156-Magnetic Flowmeters	[01783] Draft Individual ESM	Common	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17156-Magnetic Flowmeters	[01783] Final Individual ESM	Common	1st package to be commissi	4.2 - Pre-ORT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
17-17156-Magnetic Flowmeters	[01810] Mfr Service Rep Qualifications	Per package	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17156-Magnetic Flowmeters	[01810] COPI	Per package	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17156-Magnetic Flowmeters	[01810] Pre-Commissioning Electronic Configuration Files and Tracking List		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17156-Magnetic Flowmeters	[01810] ORT and FAT Electronic Configuration Files and Tracking List		1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
17-17156-Magnetic Flowmeters	[01820] Training - Lesson Plans and Trainer Quals	Common	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17156-Magnetic Flowmeters	[01820] Training - Material Prior to Sessions	Common	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17156-Magnetic Flowmeters	[17010] O&M Manuals and Installation Drawings	Common	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
17-17156-Magnetic Flowmeters	[17010] Factory Calibration Results	Per package	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17159-Rotameters	[01783] As-Built Individual ESM		1st package to be commissi	4.5 - Beneficial Occupancy	25	3 - Prior to Start of Commissioni	Facility Record	ESM
17-17159-Rotameters	[01810] COPO		1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
17-17159-Rotameters	[17010] Shop Drawings, Product Data and Data Sheets		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
17-17159-Rotameters	[17010] Special Tools		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Special Tools
17-17159-Rotameters	[01783] Draft Individual ESM		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17159-Rotameters	[01783] Final Individual ESM		1st package to be commissi	4.2 - Pre-ORT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
17-17159-Rotameters	[01810] Mfr Service Rep Qualifications		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17159-Rotameters	[01810] COPI		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17159-Rotameters	[17010] O&M Manuals and Installation Drawings		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
17-17159-Rotameters	[17010] Factory Calibration Results		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17160-Density Meters-Analyzers	[01783] As-Built Individual ESM		1st package to be commissi	4.5 - Beneficial Occupancy	25	3 - Prior to Start of Commissioni	Facility Record	ESM
17-17160-Density Meters-Analyzers	[01810] COPO		1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
17-17160-Density Meters-Analyzers	[01810] RAT Electronic Configuration Files and Tracking List		1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Facility Record	Electronic Config Files
17-17160-Density Meters-Analyzers	[01820] Training - Material Used in Sessions		1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
17-17160-Density Meters-Analyzers	[01820] Training Videos		1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
17-17160-Density Meters-Analyzers	[17010] Shop Drawings, Product Data and Data Sheets		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
17-17160-Density Meters-Analyzers	[17010] Special Tools		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Special Tools
17-17160-Density Meters-Analyzers	[17010] Factory Electronic Config Files and Software		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17160-Density Meters-Analyzers	[01783] Draft Individual ESM		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17160-Density Meters-Analyzers	[01783] Final Individual ESM		1st package to be commissi	4.2 - Pre-ORT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
17-17160-Density Meters-Analyzers	[01810] Mfr Service Rep Qualifications		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File

Attachment A - Scope of Work

Exhibit 18 - Master Construction Submittal Items List

[illegible]

PROJECT NAME AND NUMBER
Attachment A - Scope of Work
Exhibit 18 - Master Construction Submittal Items List

17-17240-Vibration Monitoring System	[01783] AS-Built Individual ESM		1st package to be commissi	4.5 - Beneficial Occupancy	25	3 - Prior to Start of Commissioni	Facility Record	ESM
17-17240-Vibration Monitoring System	[01810] COPO		1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
17-17240-Vibration Monitoring System	[01810] RAT Electronic Configuration Files and Tracking List		1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Facility Record	Electronic Config Files
17-17240-Vibration Monitoring System	[01820] Training - Material Used in Sessions		1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
17-17240-Vibration Monitoring System	[01820] Training Videos		1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
17-17240-Vibration Monitoring System	[17010] Shop Drawings, Product Data and Data Sheets		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
17-17240-Vibration Monitoring System	[17010] Special Tools		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Special Tools
17-17240-Vibration Monitoring System	[17010] Factory Electronic Config Files and Software		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17240-Vibration Monitoring System	[01783] Draft Individual ESM		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17240-Vibration Monitoring System	[01783] Final Individual ESM		1st package to be commissi	4.2 - Pre-ORT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
17-17240-Vibration Monitoring System	[01810] Mfr Service Rep Qualifications		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17240-Vibration Monitoring System	[01810] COPI		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17240-Vibration Monitoring System	[01810] Pre-Commissioning Electronic Configuration Files and Tracking List		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17240-Vibration Monitoring System	[01810] ORT and FAT Electronic Configuration Files and Tracking List		1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
17-17240-Vibration Monitoring System	[01820] Training - Lesson Plans and Trainer Quals		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17240-Vibration Monitoring System	[01820] Training - Material Prior to Sessions		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17240-Vibration Monitoring System	[17010] O&M Manuals and Installation Drawings		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
17-17240-Vibration Monitoring System	[17010] Factory Calibration Results		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17405-Control Panels	Control Panel Engineering Submittal		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
17-17405-Control Panels	Loop Drawing Submittal		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Engineering Drawing
17-17405-Control Panels	[01783] AS-Built Individual ESM		1st package to be commissi	4.5 - Beneficial Occupancy	25	3 - Prior to Start of Commissioni	Facility Record	ESM
17-17405-Control Panels	[01810] COPO		1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
17-17405-Control Panels	Panel Shop UL Certification		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17405-Control Panels	[01783] Draft Individual ESM		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17405-Control Panels	[01783] Final Individual ESM		1st package to be commissi	4.2 - Pre-ORT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
17-17405-Control Panels	[01810] FDT Plan and Procedures		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17405-Control Panels	[01810] Completed FDT1 Documents		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17405-Control Panels	[01810] Completed FDT2 Documents		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Test Results
17-17405-Control Panels	[01810] Mfr Service Rep Qualifications		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17405-Control Panels	[01810] COPI		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17406-PLC Hardware	Bill of Material	Include submittal whe	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17406-PLC Hardware	PLC Installation Personnel - Qualifications	Include submittal whe	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17410-Contractor Programming, Using OC San Standards	Step 6, As-Built Documentation		1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Facility Record	Shop Drawings
17-17410-Contractor Programming, Using OC San Standards	[01820] Training - Material Used in Sessions		1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
17-17410-Contractor Programming, Using OC San Standards	[01820] Training Videos		1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
17-17410-Contractor Programming, Using OC San Standards	Step 2, Initial Program Development		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17410-Contractor Programming, Using OC San Standards	Step 3, Final Program Development		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17410-Contractor Programming, Using OC San Standards	Step 4, Bench Test		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17410-Contractor Programming, Using OC San Standards	Step 4, Bench Tested Accepted Software Submittal		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17410-Contractor Programming, Using OC San Standards	[01820] Training - Lesson Plans and Trainer Quals		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17410-Contractor Programming, Using OC San Standards	[01820] Training - Material Prior to Sessions		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17411-Contractor Programming, Not Using OC San Standards	Step 6, As-Built Documentation		1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Facility Record	Shop Drawings
17-17411-Contractor Programming, Not Using OC San Standards	[01820] Training - Material Used in Sessions		1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
17-17411-Contractor Programming, Not Using OC San Standards	[01820] Training Videos		1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
17-17411-Contractor Programming, Not Using OC San Standards	Step 2, Initial Program Development		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17411-Contractor Programming, Not Using OC San Standards	Step 3, Final Program Development		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17411-Contractor Programming, Not Using OC San Standards	Step 4, Bench Test		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17411-Contractor Programming, Not Using OC San Standards	Step 4, Bench Tested Accepted Software Submittal		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17411-Contractor Programming, Not Using OC San Standards	[01820] Training - Lesson Plans and Trainer Quals		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17411-Contractor Programming, Not Using OC San Standards	[01820] Training - Material Prior to Sessions		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17800-Gas Monitoring Devices	[01783] Final Individual ESM		1st package to be commissi	4.2 - Pre-ORT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
17-17800-Gas Monitoring Devices	[01810] ORT and FAT Electronic Configuration Files and Tracking List		1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
17-17800-Gas Monitoring Devices	[01820] Training - Material Prior to Sessions		1st package to be commissi	4.1 - Pre-Commissioning	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
17-17800-Gas Monitoring Devices	[01820] Training - Material Used in Sessions		1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
17-17800-Gas Monitoring Devices	[01820] Training Videos		1st package to be commissi	4.3 - ORT-FAT	25	3 - Prior to Start of Commissioni	Facility Record	Training Materials
17-17800-Gas Monitoring Devices	[17010] Shop Drawings, Product Data and Data Sheets	Common	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
17-17800-Gas Monitoring Devices	[17010] Special Tools	Common	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Special Tools
17-17800-Gas Monitoring Devices	[17010] Factory Electronic Config Files and Software	Per package	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17800-Gas Monitoring Devices	[01783] Draft Individual ESM		1st package to be commissi	4.1 - Pre-Commissioning	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
17-17800-Gas Monitoring Devices	[01783] AS-Built Individual ESM		1st package to be commissi	4.5 - Beneficial Occupancy	25	2 - Upon Contractor Approval	Facility Record	ESM
17-17800-Gas Monitoring Devices	[01810] Mfr Service Rep Qualifications		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File

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17-17800-Gas Monitoring Devices	[01810] COPI		1st package to be commissi	4.1 - Pre-Commissioning	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
17-17800-Gas Monitoring Devices	[01810] COPO		1st package to be commissi	4.4 - RAT	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
17-17800-Gas Monitoring Devices	[01810] Pre-Commissioning Electronic Configuration Files and Tracking List		1st package to be commissi	4.1 - Pre-Commissioning	25	3 - Prior to Start of Commissioni	Project File	Engineering Project File
17-17800-Gas Monitoring Devices	[01810] RAT Electronic Configuration Files and Tracking List		1st package to be commissi	4.4 - RAT	25	2 - Upon Contractor Approval	Facility Record	Electronic Config Files
17-17800-Gas Monitoring Devices	[01820] Training - Lesson Plans and Trainer Quals		1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
17-17800-Gas Monitoring Devices	[17010] O&M Manuals and Installation Drawings	Common	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
17-17800-Gas Monitoring Devices	[17010] Factory Calibration Results	Per package	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
Part A-CA-Contract Agreement	Injury and Illness Prevention Program (IIPP)		Mobilization	4.0 - General	25	1 - Prior to NTP	Project File	Engineering Project File
Part A-CA-Contract Agreement	Site Specific Safety Plan (SSSP)		Mobilization	4.0 - General	25	1 - Prior to NTP	Project File	Engineering Project File
Part B-GC-General Conditions	Payment - Itemized Breakdown of Contract Lump Sum Prices (SOV)		1st package to be commissi	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
Part D-GR-General Requirements	Final Photographs		General Construction	4.7 - Final Completion	25	2 - Upon Contractor Approval	Facility Record	Construction Specialty
Part D-GR-General Requirements	Certification of Inspection and Acceptance by Local Agency		General Construction	4.7 - Final Completion	25	2 - Upon Contractor Approval	Facility Record	Facility Permits
Part D-GR-General Requirements	Air Quality Statement of Compliance Letter	Submit yearly	General Construction	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
Part D-GR-General Requirements	On-Road Vehicles CARB Compliance	Under Construction Gf	General Construction	4.0 - General	25	2 - Upon Contractor Approval	Facility Record	Facility Permits
Part D-GR-General Requirements	Portable Engine-Driven Equipment Usage Records/Unit Specific Logs	Under Construction Gf	General Construction	4.0 - General	25	2 - Upon Contractor Approval	Facility Record	Facility Permits
Part D-GR-General Requirements	Portable Engine-Driven Equipment Activity Reports	Master GRs. Submit ql	General Construction	4.0 - General	25	2 - Upon Contractor Approval	Facility Record	Facility Permits
Part D-GR-General Requirements	Contractor Engine or Equipment Information for Revision of OC San Title V	Master GRs	General Construction	4.0 - General	25	2 - Upon Contractor Approval	Facility Record	Facility Permits
Part D-GR-General Requirements	Volatile Organic Compounds Usage Records	Submit monthly	General Construction	4.0 - General	25	2 - Upon Contractor Approval	Facility Record	Facility Permits
Part D-GR-General Requirements	Abrasive Blasting Usage Records	Submit quarterly	General Construction	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
Part D-GR-General Requirements	Dust Control Plan		Mobilization	4.0 - General	25	1 - Prior to NTP	Project File	Engineering Project File
Part A-CA-Contract Agreement	[GR] Safety Data Sheets		Safety	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
Part D-GR-General Requirements	Management Plan for Staging, Storage and Disposal of Soil-Related Waste Material		General Construction	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
Part D-GR-General Requirements	Project-Wide Hazardous Waste Management Plan	Delete if required by 0	General Construction	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
Part D-GR-General Requirements	Protection of Wildlife - Tree Removal		General Construction	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
Part D-GR-General Requirements	Stormwater BMPs		General Construction	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
Part D-GR-General Requirements	Spill Prevention, Control, and Countermeasure Plan	For work outside the p	General Construction	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
Part D-GR-General Requirements	Erosion Control Plan		General Construction	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
Part D-GR-General Requirements	Traffic Control Plan	Delete if required by 0	General Construction	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
Part D-GR-General Requirements	Public Convenience and Access - Traffic Control Experience	For work outside the p	General Construction	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
Part D-GR-General Requirements	Schedule and Work Seq Proposed to Keep Process Equip Operational	Delete if covered by 01	General Construction	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
Part D-GR-General Requirements	Salvage and Removal of Existing Equipment List		General Construction	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
Part D-GR-General Requirements	Equipment Start-Up Schedule and Checkout Procedure Documents	Usually included in tec	General Construction	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
Part D-GR-General Requirements	Project Information Signs and Mock-Up	Only for collections. U:	General Construction	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
Part D-GR-General Requirements	"Or Equal" Substitution Requests		General Construction	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
Part D-GR-General Requirements	Certification of Insurance for Off-Site Storage Facilities		General Construction	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
Part D-GR-General Requirements	Plant Access Roads - Emergency Access and Operator Access Plan		Mobilization	4.0 - General	25	1 - Prior to NTP	Project File	Engineering Project File
Part D-GR-General Requirements	Final Updated Master Schedule	Delete if you have 013	General Construction	4.7 - Final Completion	25	2 - Upon Contractor Approval	Project File	Engineering Project File
Part D-GR-General Requirements	As-Built Drawings		General Construction	4.7 - Final Completion	25	2 - Upon Contractor Approval	Facility Record	As-Built
Part D-GR-General Requirements	Warranties		General Construction	4.7 - Final Completion	25	2 - Upon Contractor Approval	Project File	Engineering Project File
Part D-GR-General Requirements	Affidavit of Payment of All Taxes		General Construction	4.7 - Final Completion	25	2 - Upon Contractor Approval	Project File	Engineering Project File
Part D-GR-General Requirements	Consent of Surety for Final Payment		General Construction	4.7 - Final Completion	25	2 - Upon Contractor Approval	Project File	Engineering Project File
Part D-GR-General Requirements	Final Completed Punchlist		General Construction	4.7 - Final Completion	25	2 - Upon Contractor Approval	Project File	Engineering Project File
Part D-GR-General Requirements	Estimate of Power Needs		General Construction	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
Part D-GR-General Requirements	Water Needs Request		General Construction	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
Part D-GR-General Requirements	SCAQMD Rule 1403 Notification - Asbestos	Under Construction Gf	General Construction	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
Part D-GR-General Requirements	Sewage Bypass System	Delete if we have Secti	1st package to be commissi	4.1 - Pre-Commissioning	25	2 - Upon Contractor Approval	Project File	Engineering Project File
Part D-GR-General Requirements	OSSWMP non-compliance notification	Delete if we have 0227	General Construction	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
Part D-GR-General Requirements	Material Samples	GR-24	General Construction	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
Part D-GR-General Requirements	Factory, Laboratory and Mil Test Reports	GR-24	General Construction	4.0 - General	25	2 - Upon Contractor Approval	Facility Record	Shop Drawings
Part D-GR-General Requirements	Proposed Traffic Control Plan Changes		General Construction	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
Part D-GR-General Requirements	Temp Steel Plate Structural Design		General Construction	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
Part D-GR-General Requirements	Permanent Cylinder and Key Blanks for all Locks		General Construction	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
Part D-GR-General Requirements	Dewatering Plan	Delete if we have 0222	General Construction	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
Part D-GR-General Requirements	[CA] Excavation and Shoring Plan	Delete if we have 022C	General Construction	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
Part D-GR-General Requirements	Authorization to Discharge	Delete if not needed o	General Construction	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
Part D-GR-General Requirements	Method of Utility Relocation or Protection	Quantity as Required.	General Construction	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
Part D-GR-General Requirements	Re-Vegetation Plan		General Construction	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
Part A-CA-Contract Agreement	Contractor Injury Statistics	Duplicate anually	Safety	4.0 - General	25	1 - Prior to NTP	Project File	Engineering Project File
Part A-CA-Contract Agreement	Contractor Injury Statistics - Annual Submittal	Duplicate for each yea	Safety	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
Part A-CA-Contract Agreement	Contractor Safety Representative (CSR)	Resubmit if staff chang	Mobilization	4.0 - General	25	1 - Prior to NTP	Project File	Engineering Project File
Part A-CA-Contract Agreement	Contractor Safety Manager (CSM)	Resubmit if staff chang	Mobilization	4.0 - General	25	1 - Prior to NTP	Project File	Engineering Project File

PROJECT NAME AND NUMBER

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Exhibit 18 - Master Constrution Submittal Items List

Part A-CA-Contract Agreement	Project-Specific Safety Orientation	Performed by Risk Mgt Mobilization	4.0 - General	25	1 - Prior to NTP	Project File	Engineering Project File
Part A-CA-Contract Agreement	OC San Owned Overhead Cranes Release of Liability and Proof of Training	Duplicate as necessary Safety	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
Part A-CA-Contract Agreement	Industrial Hygiene Data	Duplicate as necessary Safety	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
Part A-CA-Contract Agreement	Spray Painting Work Plan	Duplicate as necessary Safety	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
Part A-CA-Contract Agreement	Abrasive Blast Work Plan	Duplicate as necessary Safety	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
Part A-CA-Contract Agreement	Hydro-blasting Work Plan	Duplicate as necessary Safety	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
Part A-CA-Contract Agreement	Scaffolding	Project specific. Duplic Safety	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
Part A-CA-Contract Agreement	Mobile Crane Operator Qualifications	Submit annually and if s Safety	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
Part A-CA-Contract Agreement	Critical Lift Plan	Duplicate as necessary Safety	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
Part A-CA-Contract Agreement	5000lbs Fall Protection designs	Duplicate as necessary Safety	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
Part A-CA-Contract Agreement	Demolition Plan	Delete if you have 020 Safety	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
Part A-CA-Contract Agreement	Asbestos and Lead Abatement Plans; SCAQMD Rule 1403 Notifications	Duplicate as necessary Mobilization	4.0 - General	25	1 - Prior to NTP	Project File	Engineering Project File
Part A-CA-Contract Agreement	All Competent Persons for their Craft	Resubmit if staff chang Mobilization	4.0 - General	25	1 - Prior to NTP	Project File	Engineering Project File
Part A-CA-Contract Agreement	First Aid Training Records	Mobilization	4.0 - General	25	1 - Prior to NTP	Project File	Engineering Project File
Part A-CA-Contract Agreement	First Aid Training Records - 2 year submital	Duplicate every 2 year Safety	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
Part A-CA-Contract Agreement	Workplace Violence Policy	Mobilization	4.0 - General	25	1 - Prior to NTP	Project File	Engineering Project File
Part A-CA-Contract Agreement	Weekly Safety Inspections	Duplicate weekly Safety	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File
Part A-CA-Contract Agreement	Emergency Contact List	Resubmit if staff chang Mobilization	4.0 - General	25	1 - Prior to NTP	Project File	Engineering Project File
Part A-CA-Contract Agreement	Forklift Training Records	Resubmit if staff chang Safety	4.0 - General	25	2 - Upon Contractor Approval	Project File	Engineering Project File

EXHIBIT 19

PROJECT REFERENCE MATERIAL

(NOT INCLUDED)

EXHIBIT 22

ORT PROCEDURE EXAMPLES

OPERATIONAL READINESS TEST	
PROJECT: J-117B-Outfall Low Flow Pump Station COMMISSIONING PACKAGE: PWPS PUMP STATION EQUIPMENT TAG NO.: 27CPMP411 DESCRIPTION: PWPS PUMP #1	DATE: _____ ORT NUMBER: 4.08 RIO PANEL: 27CFCP500A P&ID: 27C-NP-520
OPERATIONAL READINESS TEST: 27CPMP411	
☐ Confirm that Electrical Energization Approval has been given by OC SAN for the subject Equipment, as defined in the specifications, has been submitted, and accepted.	
☐ Confirm the SAT Database, HMI Graphics, and PLC Program, have been loaded and are ready for the subject ORT to be performed.	
<u>Utilities and Mechanical Services Available for Tests (contractor Commissioning Coordinator complete this section prior to test)</u> - Prior to field testing, record in this section, steps to prevent interference with plant operation, prevent mechanical damage and assure complete and safe test:	
<u>Pre-Job Safety</u> (contractor Commissioning Coordinator complete this section prior to test):	
1. ☐ A Job Hazard Analysis shall be prepared for the test. 2. ☐ Enact Lockout plan per the standards approved in the Commissioning Plan submittal. 3. ☐ Prepare and present JHA at Commissioning Coordination Meeting Prior to proceeding with the field tests. 4. ☐ Include the JHA in the test booklet for permanent record.	
Approval to Begin ORT TEST: 27CPMP411	
_____ Contractor Commissioning Coordinator Date	_____ OC SAN Commissioning Coordinator Date
<u>RECORD START TIME AND DATE</u> TIME: _____ DATE: ____/____/____	<u>RECORD END TIME AND DATE</u> TIME: _____ DATE: ____/____/____

OPERATIONAL READINESS TEST: 27CPMP411							
Index	Action/Description	Tag	Verification/Comments	Signatures			
				Contractor	Date	OC SAN	Date
PRE-CHECK							
1	Review approvals page, confirm permission to begin this test has been provided.		☐ Permission has been provided				
2	Verify proper Lock-Out-Tag-Out activities are performed, refer to approvals page.		☐ LOTO activities complete				
3	Verify motor is uncoupled from the driven equipment, or is otherwise safe to operate the motor and driven equipment, refer to approvals page.		☐ Equipment is ready and safe as documented on the approvals page of this ORT				
(N)	NOTE: In this ORT procedure, the terminology for equipment is "VFD", rather than "Motor", because the motor may or may not be run for this test. Verification of equipment ON/OFF will be stated as, "VFD ON", or "VFD OFF". Be Aware - the motor and driven equipment may also be operating when the VFD is ON. Motor and driven equipment operating status for this test - refer to the approvals page under the direction of the Contractor's Commissioning Coordinator.						
4	Place HAND-OFF-REMOTE (HOR) switch in OFF. Place ENABLE/DISABLE (ED) in DISABLE position.		☐ HOR in OFF position ☐ ED in DISABLE position				
5	Set the speed potentiometer to 75%.		☐ Speed pot set to 75%				
6	Turn the breakers feeding the VFD and in the VFD to the ON position.	27CYS411A 27CHS411B	☐ At VFD, power to the VFD keypad is on ☐ At VFD, OFF light on ☐ At VFD, no other lights on ☐ At RIO, [D2,S3,R1,P3 - 100019] Ready is 0 ☐ At RIO, [D2,S3,R1,P1 - 100017] Remote is 0 ☐ At HMI, WAIT				
7	Verify the motor space heater is on (measure current draw of the heater using a clamp-on ammeter on the heater power wires to verify the heater is on).		<u>Check one:</u> ☐ VFD is off, motor heater is on Record Heater Current: _____ A ☐ Motor space heater - not applicable to this equipment				
8	Commissioning Coordinator - write in VFD configuration values from accepted Contractor Equipment Submittals (refer to Project Specification related to VFDs):		☐ Accepted Submittal # _____ Minimum Speed: _____ Hz Maximum Speed: _____ Hz Motor HP: _____ Motor FLA: _____ A Motor JOG Speed: _____ Hz				
	Record and Verify VFD configuration (see previous step), for the following settings:		☐ The Settings listed below match the approved device configuration submittal ☐ Record Minimum Speed: _____ Hz				

OPERATIONAL READINESS TEST: 27CPMP411							
Index	Action/Description	Tag	Verification/Comments	Signatures			
				Contractor	Date	OC SAN	Date
9			☐ Record Maximum Speed: _____ Hz ☐ Record Motor HP: _____ ☐ Record Motor FLA: _____ A ☐ Record Motor JOG Speed: _____ Hz				
PROTECTION CIRCUIT PREP FOR TESTING							
10	Pump Discharge Check Valve Fail to Open Circuit: The Discharge Check Valve Fail (if provided for pump protection) to Open circuit (if provided for pump protection) will need to be defeated to allow ORT testing of other parts of the control circuit. Simulate a check valve open signal to prevent a Check Valve Fail to Open shutdown. In this step, choose the selected method for defeating/bypassing the Check Valve Fail to Open protection, and record the method. Removal of the bypass/defeat method will be required to test the Check Valve Fail to Open protection in the LOCAL SHUTDOWN section, in the REMOTE MANUAL SHUTDOWN section, and after all testing is completed in the PROTECTION CIRCUIT RESTORATION section of this ORT.		<u>Check one:</u> ☐ N/A ☐ Manually manipulate the Check Valve Limit Switch to simulate an open valve status ☐ Install a temporary jumper across the Check Valve Limit Switch contact (typical circuit will be a closed limit switch indicates an OPEN Check Valve) ☐ Other: _____ _____ _____				
11	Seal Water Low Flow Protection Circuit: The Seal Water Low Flow protection circuit (if provided for pump protection) will need to be defeated to allow ORT testing of other parts of the control circuit. Simulate seal water available to prevent a Seal Water Fail shutdown. In this step, choose the selected method for defeating/bypassing the Seal Water Low Flow protection and record the method. Removal of the defeat method will be required to test the Seal Water Low Flow protection in the LOCAL SHUTDOWN section, in the REMOTE MANUAL SHUTDOWN section, and after all testing is completed in the END section of this ORT.		<u>Check one:</u> ☐ N/A ☐ Manually manipulate the Seal Water Flow Switch to simulate the position when water is flowing ☐ Install a temporary jumper across the Seal Water Flow Switch contact (typical circuit will be a closed limit switch indicates water flow is Ok) ☐ Other: _____ _____ _____				
	Wetwell Low Low Level Circuit:		<u>Check one:</u> ☐ N/A				

OPERATIONAL READINESS TEST: 27CPMP411							
Index	Action/Description	Tag	Verification/Comments	Signatures			
				Contractor	Date	OC SAN	Date
12	The Wetwell Low Low Level circuit (if provided for pump protection) will need to be defeated to allow ORT testing of other parts of the control circuit. Simulate wet well low low level to prevent a Low Low Level shutdown. In this step, choose the selected a method for defeating/bypassing the Wetwell Low Low Level protection, and record the method. Removal of the defeat method will be required to test the Wetwell Low Low Level protection in the LOCAL SHUTDOWN section, in the REMOTE MANUAL SHUTDOWN section, and after all testing is completed in the PROTECTION CIRCUIT		☐ Manually manipulate the Wetwell Low Low Level Switch (Float or other) to simulate Level is Ok ☐ Install a temporary jumper across the Wetwell Low Low Level Switch (Float or other, typical circuit will be a closed switch indicates Level is Low, open switch indicates Level is Normal) ☐ At the level transmitter which sends this signal, simulate Low Low Level by using the transmitter configuration output test mode for the transmitter discrete output. ☐ Other: _____ _____ _____				
13	Pump Discharge Valve - OPEN - Permissive/Interlock: If the pump start/run requires a Discharge Valve (if provided) to be OPEN (valve open limit switch contact in the pump control schematic), the valve position contact may need to be simulated with a jumper or lifted wire, so the input to the VFD is indicating the valve position is FULL OPEN, to allow ORT testing of other parts of the control circuit. In this step, choose a method for defeating/bypassing the Pump Discharge Valve - OPEN - Permissive/Interlock protection, and record the method. Removal of the defeat method will be required to test the		☐ N/A ☐ Method: _____ _____ _____ _____ _____ _____ _____ _____ _____				
14	Lube Oil Pump - ON - Permissive/Interlock: If the pump start/run requires a Lube Oil Pump (if provided) to be ON - (lube oil pump starter ON status contact in this pump control schematic), the status contact may need to be simulated with a jumper or lifted wire, so the input to the VFD is indicating the Lube Oil Pump is ON, to allow ORT testing of other parts of the control circuit. In this step, choose a method for defeating/bypassing the Lube Oil Pump - ON - Permissive/Interlock protection, and record the method. Removal of the defeat method will be required to test the Lube		☐ N/A ☐ Method: _____ _____ _____ _____ _____ _____ _____ _____ _____				

LOCAL - BEGIN

OPERATIONAL READINESS TEST: 27CPMP411							
Index	Action/Description	Tag	Verification/Comments	Signatures			
				Contractor	Date	OC SAN	Date
16	At motor, with ENABLE/DISABLE (ED) switch still in DISABLE position, press JOG button.		☐ VFD runs at preset speed _____ %, _____ Hz ☐ At VFD, ON light is on ☐ At VFD, OFF light is off				
17	At motor, switch ED to ENABLE while pressing the JOG button.		☐ VFD continues to run ☐ At VFD, READY light is on				
18	At motor, switch ED to DISABLE while pressing the JOG button.		☐ VFD continues to run ☐ At VFD, READY light is off				
19	Press the E-STOP push button.		☐ VFD stops immediately without ramping down ☐ At VFD, ON light is off ☐ At VFD, OFF light is on				
20	Release the E-STOP button.		☐ VFD restarts				
21	At motor, release the JOG button.		☐ VFD ramps down and stops				
22	At VFD, press and release JOG button at the VFD local keypad. (some VFDs do not have this feature, indicate NA for this step if the VFD does not have a jog button on the keypad).		<u>Check one:</u> ☐ VFD keypad JOG button is disabled, VFD does not run ☐ NA				
23	At motor, place ED in the ENABLE position.	27CYS411A 27CHS411B	☐ At VFD, READY light is on ☐ At VFD, OFF light is on ☐ At RIO, [D2,S3,R1,P3 - 100019] READY is 1 ☐ At RIO, [D2,S3,R1,P1 - 100017] REMOTE is 0 ☐ At HMI, OK and Ready				
24	At VFD, with speed potentiometer still set to 75%. Place HOR in HAND.	27CYS411A 27CHS411B 27CST411	☐ VFD ramps to 75 % (at Speed Indicator) ☐ At VFD, ON light is on ☐ At VFD, OFF light is off ☐ At RIO, [D2,S3,R1,P3 - 100019] READY is 1 ☐ At RIO, [D2,S3,R1,P1 - 100017] REMOTE is 0 ☐ At RIO, [D3,S6,R1,P1 - 300001] Speed Indication is 75% _____ % ☐ At HMI, ON at 75%				
25	With the VFD ON, verify the motor space heater is OFF (measure current draw of the heater using a clamp-on ammeter on the heater power wires to verify the heater is OFF).		<u>Check one:</u> ☐ VFD is ON, Motor Heater is OFF Record Heater Current: _____ A ☐ Motor space heater - not applicable to this equipment				
26	At motor, place ENABLE/DISABLE switch to the DISABLE position.		☐ VFD ramps down and stops ☐ At VFD, ON light is off ☐ At VFD, OFF light is on				
27	At motor, place ENABLE/DISABLE switch to the ENABLE position.		☐ VFD ramps to 75 % (at Speed Indicator) ☐ At VFD, ON light is on ☐ At VFD, OFF light is off				
	Perform the following two steps for each E-STOP button:		☐ VFD stops immediately without ramping down: ___ EStop#1, ___ EStop#2, ___ EStop#3, ___ EStop#4				

OPERATIONAL READINESS TEST: 27CPMP411							
Index	Action/Description	Tag	Verification/Comments	Signatures			
				Contractor	Date	OC SAN	Date
28	Commissioning Coordinator, record the number of E-STOP Button (schematic and loop diagrams): _____ Push the E-STOP button. ____EStop#1, ____EStop#2, ____Estop#3, ____Estop#4	27CHS411L	☐ At VFD, ON light is off: ____EStop#1, ____EStop#2, ____Estop#3, ____Estop#4 ☐ At VFD, OFF light is on: ____EStop#1, ____EStop#2, ____Estop#3, ____Estop#4 ☐ At RIO, [D2,S3,R1,P12 - 100028] ESTOP is 1 ____EStop#1, ____EStop#2, ____Estop#3, ____Estop#4				
29	Reset the E-STOP button. ____EStop#1, ____EStop#2, ____Estop#3, ____Estop#4	27CHS411L	☐ VFD ramps to 75 % (at VFD touchpad): ____EStop#1, ____EStop#2, ____Estop#3, ____Estop#4 ☐ At VFD, ON light is on: ____EStop#1, ____EStop#2, ____Estop#3, ____Estop#4 ☐ At VFD, OFF light is off: ____EStop#1, ____EStop#2, ____Estop#3, ____Estop#4 ☐ At RIO, [D2,S3,R1,P12 - 100028] ESTOP is 0 ____EStop#1, ____EStop#2, ____Estop#3, ____Estop#4				
30	At VFD, turn the VFD circuit breaker to OFF, and turn ON within 30 seconds.		☐ VFD turns OFF, then resumes after breaker is turned ON				
31	At VFD, turn the VFD circuit breaker to OFF, wait for over 30 seconds, turn the circuit breaker back ON.		☐ VFD turns OFF, then resumes after breaker is turned ON				
32	At VFD, place the HOR in OFF	27CYS411	☐ VFD stops running ☐ At VFD, OFF light is on ☐ At VFD, ON light is off ☐ At RIO, [D2,S3,R1,P2 - 100018] ON is 0 ☐ At HMI, OFF				
33	At VFD, attempt to start the VFD from the local keypad at the VFD control panel		☐ VFD does not start				
34	At HMI, attempt to start the VFD (SCADA).	27CPMP411	☐ At RIO, [D3,S3,R1,P1 - 00001] RUN is 0 ☐ VFD does not start				
35	Pump Discharge Valve - OPEN - Permissive/Interlock: Perform this step if the pump start/run requires a Discharge Valve to be OPEN (valve open limit switch contact in the pump control schematic): Simulate the valve position contact with a jumper or lifted wire, so the input to the VFD is indicating the valve position is NOT FULL OPEN, attempt to start the VFD. (the VFD should not start) RESTORE - remove simulation (jumper/lifted lead), after verification is completed. (refer to Protection Circuit Prep)	27CYS411	☐ N/A, no discharge valve permissive/interlock ☐ Valve position limit switch input to VFD indicates valve is NOT FULL OPEN. ☐ VFD does not start ☐ At VFD, OFF light is on ☐ At VFD, ON light is off ☐ At RIO, [D2,S3,R1,P2 - 100018] ON is 0 ☐ At HMI, OFF				

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	RETEST: After restoration is complete, start and then stop the VFD to verify restoration is correct. (refer to Protection Circuit Prep)						
36	Lube Oil Pump - ON - Permissive/Interlock: Perform this step if the pump start/run requires a Lube Oil Pump ON Status (lube oil pump starter ON status contact in this pump control schematic): Simulate the lube oil pump starter ON status contact with a jumper or lifted wire, so the input to the VFD is indicating the lube oil pump starter status is OFF, attempt to start the VFD. (the VFD should not start) RESTORE - remove simulation (jumper/lifted lead), after verification is completed. (refer to Protection Circuit Prep) RETEST: After restoration is complete, start and then stop the VFD to verify restoration is correct. (refer to Protection Circuit Prep)	27CYS411	☐ N/A, no lube oil pump permissive/interlock ☐ Lube Oil Pump ON status input to VFD indicates pump is off ☐ VFD does not start ☐ At VFD, OFF light is on ☐ At VFD, ON light is off ☐ At RIO, [D2,S3,R1,P2 - 100018] ON is 0 ☐ At HMI, OFF				
37	With speed potentiometer still set to 75%. Place HOR in HAND.		☐ VFD ramps to 75 % (at VFD touchpad) ☐ At VFD, ON light is on ☐ At VFD, OFF light is off ☐ At HMI, ON 75%				
38	While still running set the speed potentiometer 0, 25, 50, 75 and 100%. Note: speed should be fixed at minimum speed when potentiometer is set below minimum speed. <u>Verify all indicators match the actual speed:</u> a. VFD Local Keypad Display b. VFD Panel Digital Speed Indication Display c. SCADA HMI Display	27CST411	☐ HMI: [D3,S6,R1,P1 - 300001] VFD Keypad VFD Panel SCADA HMI ☐ 100 % _____ ☐ 75 % _____ ☐ 50 % _____ ☐ 25 % _____ ☐ 0 % _____				
(N)	NOTE: While verifying Shutdown logic in the following steps, ensure the VFD/Pump/Motor equipment does not exceed the manufacturer's recommended number of starts or stops per hour.						

LOCAL SHUTDOWN: 27CYS411B, PUMP 1 TROUBLE

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39	Simulate: 27CYS411B, PUMP 1 TROUBLE Simulation Instructions: Create a condition at the VFD that causes the VFD Trouble contact to be actuated. Notate how the Trouble was created: _____ _____ _____	27CYS411B 27CYS411 27CYS411A	☐ VFD stops running after _____ seconds ☐ At VFD, OFF light is on ☐ At VFD, ON light is off ☐ At VFD, READY light is off ☐ At VFD, [PUMP 1 TROUBLE] light is on ☐ At RIO, [D2,S3,R1,P10 - 100026] [PUMP 1 TROUBLE] is 1 ☐ At RIO, [D2,S3,R1,P2 - 100018] ON is 0 ☐ At RIO, [D2,S3,R1,P3 - 100019] READY is 0 ☐ HMI, [PUMP 1 TROUBLE] Alarm				
40	Terminate simulation and Press reset button.	27CYS411B	☐ VFD starts, VFD ON ☐ At VFD, READY is on ☐ At VFD, [PUMP 1 TROUBLE] light is off ☐ At RIO, [D2,S3,R1,P10 - 100026] [PUMP 1 TROUBLE] is 0 ☐ At HMI, OK and no [PUMP 1 TROUBLE] Alarm				
LOCAL SHUTDOWN: 27CZSC406, PUMP 1 CHK VLV FAIL TO OPEN							
39	Simulate: 27CZSC406, PUMP 1 CHK VLV FAIL TO OPEN Simulation Instructions: With the VFD/starter in running state, simulate a check valve fail to open by leaving the limit switch in its normal state (VFD is ON and the check valve position switch is in closed position).	27CZSC406 27CYS411 27CYS411A	☐ VFD stops running after _____ seconds ☐ At VFD, OFF light is on ☐ At VFD, ON light is off ☐ At VFD, READY light is off ☐ At VFD, [PUMP 1 CHK VLV FAIL TO OPEN] light is on ☐ At RIO, [D2,S3,R1,P14 - 100030] [PUMP 1 CHK VLV FAIL TO OPEN] is 1 ☐ At RIO, [D2,S3,R1,P2 - 100018] ON is 0 ☐ At RIO, [D2,S3,R1,P3 - 100019] READY is 0 ☐ HMI, [PUMP 1 CHK VLV FAIL TO OPEN] Alarm				
40	Terminate simulation and Press reset button.	27CZSC406	☐ VFD starts, VFD ON ☐ At VFD, READY is on ☐ At VFD, [PUMP 1 CHK VLV FAIL TO OPEN] light is off ☐ At RIO, [D2,S3,R1,P14 - 100030] [PUMP 1 CHK VLV FAIL TO OPEN] is 0 ☐ At HMI, OK and no [PUMP 1 CHK VLV FAIL TO OPEN] Alarm				
LOCAL SHUTDOWN: 27CTSH459, PUMP 1 MOTOR HI TEMP							
	Simulate: 27CTSH459, PUMP 1 MOTOR HI TEMP Simulation Instructions: Simulate a motor high temperature alarm by manipulating setpoint values. Change setpoints temporarily. When ambient		☐ VFD stops running after _____ seconds ☐ At VFD, OFF light is on ☐ At VFD, ON light is off ☐ At VFD, READY light is off				

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39	temperature is above the alarm and shutdown setpoints, verify the functions (listed in verification section of this step) for each one.	27CTSH459 27CYS411 27CYS411A	☐ At VFD, [PUMP 1 MOTOR HI TEMP] light is on ☐ At RIO, [D2,S3,R1,P6 - 100022] [PUMP 1 MOTOR HI TEMP] is 1 ☐ At RIO, [D2,S3,R1,P2 - 100018] ON is 0 ☐ At RIO, [D2,S3,R1,P3 - 100019] READY is 0 ☐ HMI, [PUMP 1 MOTOR HI TEMP] Alarm				
40	Terminate simulation and Press reset button.	27CTSH459	☐ VFD starts, VFD ON ☐ At VFD, READY is on ☐ At VFD, [PUMP 1 MOTOR HI TEMP] light is off ☐ At RIO, [D2,S3,R1,P6 - 100022] [PUMP 1 MOTOR HI TEMP] is 0 ☐ At HMI, OK and no [PUMP 1 MOTOR HI TEMP] Alarm				
LOCAL SHUTDOWN: 27CFSL499, PUMP 1 SW LO FLOW							
39	Simulate: 27CFSL499, PUMP 1 SW LO FLOW Simulation Instructions: Simulate the equipment ON status, verify the seal water water control valve operates correctly. Verify seal water valve control circuit operation - 1) When pump is on, seal water valve allows flow immediately, 2) When pump stops, seal water valve stops water flow. Simulate low process flow condition by jumpering the low flow switch wiring terminals to initiate the test of the low flow switch circuit.	27CFSL499 27CYS411 27CYS411A	☐ VFD stops running after ____ seconds ☐ At VFD, OFF light is on ☐ At VFD, ON light is off ☐ At VFD, READY light is off ☐ At VFD, [PUMP 1 SW LO FLOW] light is on ☐ At RIO, [D2,S3,R1,P5 - 100021] [PUMP 1 SW LO FLOW] is 1 ☐ At RIO, [D2,S3,R1,P2 - 100018] ON is 0 ☐ At RIO, [D2,S3,R1,P3 - 100019] READY is 0 ☐ HMI, [PUMP 1 SW LO FLOW] Alarm				
40	Terminate simulation and Press reset button.	27CFSL499	☐ VFD starts, VFD ON ☐ At VFD, READY is on ☐ At VFD, [PUMP 1 SW LO FLOW] light is off ☐ At RIO, [D2,S3,R1,P5 - 100021] [PUMP 1 SW LO FLOW] is 0 ☐ At HMI, OK and no [PUMP 1 SW LO FLOW] Alarm				
LOCAL SHUTDOWN: 27CLSLL639, PUMP 1 LOLO LEVEL							
39	Simulate: 27CLSLL639, PUMP 1 LOLO LEVEL Simulation Instructions: Place Low Level Interlock switch in ENABLE. Simulate low level condition: this LSLL is a discrete output of an Ultrasonic Level Transmitter. At the level transmitter which sends this signal, simulate Low Low Level by using the transmitter configuration output test mode for the transmitter	27CLSLL639 27CYS411 27CYS411A	☐ VFD stops running after ____ seconds ☐ At VFD, OFF light is on ☐ At VFD, ON light is off ☐ At VFD, READY light is off ☐ At VFD, [PUMP 1 LOLO LEVEL] light is on ☐ At RIO, [D2,S3,R1,P4 - 100020] [PUMP 1 LOLO LEVEL] is 1 ☐ At RIO, [D2,S3,R1,P2 - 100018] ON is 0 ☐ At RIO, [D2,S3,R1,P3 - 100019] READY is 0				

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	discrete output.		☐ HMI, [PUMP 1 LOLO LEVEL] Alarm				
40	Terminate simulation and Press reset button.	27CLSL639	☐ VFD starts, VFD ON ☐ At VFD, READY is on ☐ At VFD, [PUMP 1 LOLO LEVEL] light is off ☐ At RIO, [D2,S3,R1,P4 - 100020] [PUMP 1 LOLO LEVEL] is 0 ☐ At HMI, OK and no [PUMP 1 LOLO LEVEL] Alarm				
LOCAL SHUTDOWN: 27CPSH565, PUMP 1 DISCH HI PRESS							
39	Simulate: 27CPSH565, PUMP 1 DISCH HI PRESS Simulation Instructions: Simulate high process pressure condition at the switch sensing port using a hand operated pump to create the pressure required to actuate the switch at the pressure setpoint. Begin at simulated normal pressure, and raise the pressure to actuate the switch.	27CPSH565 27CYS411 27CYS411A	☐ VFD stops running after ____ seconds ☐ At VFD, OFF light is on ☐ At VFD, ON light is off ☐ At VFD, READY light is off ☐ At VFD, [PUMP 1 DISCH HI PRESS] light is on ☐ At RIO, [D2,S3,R1,P11 - 100027] [PUMP 1 DISCH HI PRESS] is 1 ☐ At RIO, [D2,S3,R1,P2 - 100018] ON is 0 ☐ At RIO, [D2,S3,R1,P3 - 100019] READY is 0 ☐ HMI, [PUMP 1 DISCH HI PRESS] Alarm				
40	Terminate simulation and Press reset button.	27CPSH565	☐ VFD starts, VFD ON ☐ At VFD, READY is on ☐ At VFD, [PUMP 1 DISCH HI PRESS] light is off ☐ At RIO, [D2,S3,R1,P11 - 100027] [PUMP 1 DISCH HI PRESS] is 0 ☐ At HMI, OK and no [PUMP 1 DISCH HI PRESS] Alarm				
LOCAL SHUTDOWN: 27CVSHH750, PUMP 1 HIHI VIB							
39	Simulate: 27CVSHH750, PUMP 1 HIHI VIB Simulation Instructions: Simulate High High Vibration circuit by triggering the output of the vibration monitor panel (consult equipment manual). Test from the vibration monitor panel output. If the vibration monitor panel output goes to another device (PLC for example) include that device and all interconnecting wiring in this test.	27CVSHH750 27CYS411 27CYS411A	☐ VFD stops running after ____ seconds ☐ At VFD, OFF light is on ☐ At VFD, ON light is off ☐ At VFD, READY light is off ☐ At VFD, [PUMP 1 HIHI VIB] light is on ☐ At RIO, [D2,S3,R1,P7 - 100023] [PUMP 1 HIHI VIB] is 1 ☐ At RIO, [D2,S3,R1,P2 - 100018] ON is 0 ☐ At RIO, [D2,S3,R1,P3 - 100019] READY is 0 ☐ HMI, [PUMP 1 HIHI VIB] Alarm				

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40	Terminate simulation and Press reset button.	27CVSHH750	☐ VFD starts, VFD ON ☐ At VFD, READY is on ☐ At VFD, [PUMP 1 HIHI VIB] light is off ☐ At RIO, [D2,S3,R1,P7 - 100023] [PUMP 1 HIHI VIB] is 0 ☐ At HMI, OK and no [PUMP 1 HIHI VIB] Alarm				
LOCAL ALARM: 27CTSH711, PUMP 1 VFD CAB HI TEMP							
41	Simulate: 27CTSH711, PUMP 1 VFD CAB HI TEMP Simulation Instructions: Actuate the high temperature switch with a heat source at the switch sensor.	27CTSH711	☐ VFD stays running ☐ At VFD, [PUMP 1 VFD CAB HI TEMP] is light on ☐ At RIO, [D2,S3,R1,P9 - 100025] [PUMP 1 VFD CAB HI TEMP] is 1 ☐ HMI, [PUMP 1 VFD CAB HI TEMP] Alarm				
42	Terminate simulation	27CTSH711	☐ At VFD, [PUMP 1 VFD CAB HI TEMP] light is off ☐ At RIO, [D2,S3,R1,P9 - 100025] [PUMP 1 VFD CAB HI TEMP] is 0 ☐ HMI, no [PUMP 1 VFD CAB HI TEMP] Alarm				
LOCAL ALARM: 27CHS639, P1 WW LOLO LVL DISABLE							
41	Simulate: 27CHS639, P1 WW LOLO LVL DISABLE Simulation Instructions: Simulate Low Low Level Shutdown condition (refer to Low Low Level Switch Test for this equipment), with switch in DISABLE position. The equipment should be allowed to operate with the switch in the DISABLE position. (Low Low Level Shutdown Test was performed with this switch in the ENABLE position). VERIFY - Switch status indication is correct at RIO and HMI.	27CHS639	☐ VFD stays running ☐ At VFD, [P1 WW LOLO LVL DISABLE] is light on ☐ At RIO, [D2,S3,R1,P13 - 100029] [P1 WW LOLO LVL DISABLE] is 1 ☐ HMI, [P1 WW LOLO LVL DISABLE] Alarm				

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42	Terminate simulation	27CHS639	☐ At VFD, [P1 WW LOLO LVL DISABLE] light is off ☐ At RIO, [D2,S3,R1,P13 - 100029] [P1 WW LOLO LVL DISABLE] is 0 ☐ HMI, no [P1 WW LOLO LVL DISABLE] Alarm				
LOCAL ALARM: 27CHS750, PMP 1 HIHI VIB DISABLE							
41	Simulate: 27CHS750, PMP 1 HIHI VIB DISABLE Simulation Instructions: Simulate High High Vibration Shutdown condition (refer to High High Vibration Test for this equipment), with switch in DISABLE position. The equipment should be allowed to operate with the switch in the DISABLE position. (High High Vibration Shutdown Test was performed with this switch in the ENABLE position). VERIFY - Switch status indication is correct at RIO and HMI.	27CHS750	☐ VFD stays running ☐ At VFD, [PMP 1 HIHI VIB DISABLE] is light on ☐ At RIO, [D2,S3,R1,P16 - 100032] [PMP 1 HIHI VIB DISABLE] is 1 ☐ HMI, [PMP 1 HIHI VIB DISABLE] Alarm				
42	Terminate simulation	27CHS750	☐ At VFD, [PMP 1 HIHI VIB DISABLE] light is off ☐ At RIO, [D2,S3,R1,P16 - 100032] [PMP 1 HIHI VIB DISABLE] is 0 ☐ HMI, no [PMP 1 HIHI VIB DISABLE] Alarm				
LOCAL - END							
43	At VFD, place HOR switch to the OFF position. Verify VFD stops.		☐ VFD stops ☐ At VFD, ON light is off ☐ At VFD, OFF light is on				
REMOTE MANUAL - BEGIN							
44	Place HOR in REMOTE	27CHS411B	☐ VFD does not start ☐ At RIO, [D2,S3,R1,P1 - 100017] REMOTE is 1 ☐ At HMI, in REMOTE				
45	Attempt to start the VFD from the local keypad at the VFD control panel		☐ VFD does not start				
	At the HMI, set the speed setpoint to minimum speed, place		☐ VFD starts at min. speed. Actual: ____ %				

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46	the equipment in "MANUAL" and press the ON push button.	27CPMP411 27CYS411 27CSC411 27CST411	☐ At VFD, ON light is on ☐ At VFD, OFF light is off ☐ At RIO, [D3,S3,R1,P1 - 00001] RUN is 1 ☐ At RIO, [D2,S3,R1,P2 - 100018] ON is 1 ☐ At RIO, [D3,S9,R1,P1 - 400001] Speed Control: ____ % ☐ At RIO, [D3,S6,R1,P1 - 300001] . Speed Indication: ____ % ☐ At HMI, VFD is ON ☐ At HMI, Speed Indication: ____ %				
47	At Pump, place ENABLE/DISABLE switch to the DISABLE position.		☐ VFD ramps down and stops ☐ At VFD, ON light is off ☐ At VFD, OFF light is on ☐ At HMI, VFD is OFF				
48	At Pump, place ENABLE/DISABLE switch to the ENABLE position.		☐ VFD ramps to minimum speed ☐ At VFD, ON light is on ☐ At VFD, OFF light is off ☐ At HMI, VFD is ON				
49	Perform the following two steps for each E-STOP button (field and on motor starter (where applicable)): Push the E-STOP button.	27CHS411L 27CHS411L	☐ VFD stops immediately ☐ At VFD, ON light is off ☐ At VFD, OFF light is on ☐ At RIO, [D2,S3,R1,P12 - 100028] ESTOP is 1 ☐ At HMI, ESTOP Alarm				
50	Reset the E-STOP button.	27CHS411L 27CHS411L	☐ VFD ramps to 75 % (at VFD touchpad) ☐ At VFD, ON light is on ☐ At VFD, OFF light is off ☐ At RIO, [D2,S3,R1,P12 - 100028] ESTOP is 0 ☐ At HMI, no ESTOP Alarm				
51	Turn OFF circuit breaker and turn ON within 30 seconds.		☐ VFD turns OFF, then resumes after breaker is turned ON				
52	Turn OFF circuit breaker, wait for over 30 seconds, turn the circuit breaker back ON.		☐ VFD turns OFF, then resumes after breaker is turned ON				
53	At VFD, adjust speed potentiometer		☐ At VFD, speed does not change				
54	While still running set the speed command from the HMI to 0, 25, 50, 75 and 100%. <i>Note: speed should be fixed at minimum speed when HMI Speed Setpoint is set below minimum speed.</i>	27CSC411 27CST411	☐ Command I/O: [D3,S9,R1,P1 - 400001] ☐ Indication I/O: [D3,S6,R1,P1 - 300001] Command Feedback ☐ 100 % _____ ☐ 75 % _____ ☐ 50 % _____ ☐ 25 % _____				

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			☐ 0 % _____				
55	While still running set the speed command from the HMI to 80%, for the following Shutdown and Alarm tests.	27CSC411 27CST411	☐ Speed Control I/O: [D3,S9,R1,P1 - 400001] ☐ Speed Indication I/O: [D3,S6,R1,P1 - 300001]				
REMOTE MANUAL SHUTDOWN: 27CYS411B, PUMP 1 TROUBLE							
56	Simulate: 27CYS411B, PUMP 1 TROUBLE Simulation Instructions: Create a condition at the VFD that causes the VFD Trouble contact to be actuated. Notate how the Trouble was created: _____ _____ _____	27CYS411B	☐ VFD stops running after _____ seconds ☐ At HMI, WAIT ☐ At HMI, [PUMP 1 TROUBLE] Alarm				
57	Terminate simulation.	27CYS411B	☐ VFD does not run ☐ At VFD, READY light is off ☐ At HMI, WAIT ☐ At HMI, [PUMP 1 TROUBLE] Alarm				
58	Press LOCAL reset button.	27CYS411B	☐ VFD does not run ☐ At VFD, READY light is on ☐ At HMI, WAIT ☐ At HMI, [PUMP 1 TROUBLE] Alarm				
59	Press HMI reset button.	27CYS411B	☐ VFD starts, VFD is ON ☐ At VFD, READY light is on ☐ At HMI, OK ☐ At HMI, no [PUMP 1 TROUBLE] Alarm				
REMOTE MANUAL SHUTDOWN: 27CZSC406, PUMP 1 CHK VLV FAIL TO OPEN							
	Simulate: 27CZSC406, PUMP 1 CHK VLV FAIL TO OPEN Simulation Instructions: With the VFD/starter in running state, simulate a check valve fail to open by leaving the limit switch in its normal state (VFD is ON and the check valve position switch is in closed position).	27CZSC406	☐ VFD stops running after _____ seconds ☐ At HMI, WAIT ☐ At HMI, [PUMP 1 CHK VLV FAIL TO OPEN] Alarm				

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56							
57	Terminate simulation.	27CZSC406	☐ VFD does not run ☐ At VFD, READY light is off ☐ At HMI, WAIT ☐ At HMI, [PUMP 1 CHK VLV FAIL TO OPEN] Alarm				
58	Press LOCAL reset button.	27CZSC406	☐ VFD does not run ☐ At VFD, READY light is on ☐ At HMI, WAIT ☐ At HMI, [PUMP 1 CHK VLV FAIL TO OPEN] Alarm				
59	Press HMI reset button.	27CZSC406	☐ VFD starts, VFD is ON ☐ At VFD, READY light is on ☐ At HMI, OK ☐ At HMI, no [PUMP 1 CHK VLV FAIL TO OPEN] Alarm				
REMOTE MANUAL SHUTDOWN: 27CTSH459, PUMP 1 MOTOR HI TEMP							
56	Simulate: 27CTSH459, PUMP 1 MOTOR HI TEMP Simulation Instructions: Simulate a motor high temperature alarm by manipulating setpoint values. Change setpoints temporarily. When ambient temperature is above the alarm and shutdown setpoints, verify the functions (listed in verification section of this step) for each one.	27CTSH459	☐ VFD stops running after ____ seconds ☐ At HMI, WAIT ☐ At HMI, [PUMP 1 MOTOR HI TEMP] Alarm				
57	Terminate simulation.		☐ VFD does not run ☐ At VFD, READY light is off				

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57		27CTSH459	☐ At HMI, WAIT ☐ At HMI, [PUMP 1 MOTOR HI TEMP] Alarm				
58	Press LOCAL reset button.	27CTSH459	☐ VFD does not run ☐ At VFD, READY light is on ☐ At HMI, WAIT ☐ At HMI, [PUMP 1 MOTOR HI TEMP] Alarm				
59	Press HMI reset button.	27CTSH459	☐ VFD starts, VFD is ON ☐ At VFD, READY light is on ☐ At HMI, OK ☐ At HMI, no [PUMP 1 MOTOR HI TEMP] Alarm				
REMOTE MANUAL SHUTDOWN: 27CFSL499, PUMP 1 SW LO FLOW							
56	Simulate: 27CFSL499, PUMP 1 SW LO FLOW Simulation Instructions: Simulate the equipment ON status, verify the seal water water control valve operates correctly. Verify seal water valve control circuit operation - 1) When pump is on, seal water valve allows flow immediately, 2) When pump stops, seal water valve stops water flow. Simulate low process flow condition by jumpering the low flow switch wiring terminals to initiate the test of the low flow switch circuit.	27CFSL499	☐ VFD stops running after ____ seconds ☐ At HMI, WAIT ☐ At HMI, [PUMP 1 SW LO FLOW] Alarm				
57	Terminate simulation.	27CFSL499	☐ VFD does not run ☐ At VFD, READY light is off ☐ At HMI, WAIT ☐ At HMI, [PUMP 1 SW LO FLOW] Alarm				
58	Press LOCAL reset button.	27CFSL499	☐ VFD does not run ☐ At VFD, READY light is on ☐ At HMI, WAIT ☐ At HMI, [PUMP 1 SW LO FLOW] Alarm				
59	Press HMI reset button.	27CFSL499	☐ VFD starts, VFD is ON ☐ At VFD, READY light is on ☐ At HMI, OK ☐ At HMI, no [PUMP 1 SW LO FLOW] Alarm				
REMOTE MANUAL SHUTDOWN: 27CLSL639, PUMP 1 LOLO LEVEL							
	Simulate: 27CLSL639, PUMP 1 LOLO LEVEL		☐ VFD stops running after ____ seconds				

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Index	Action/Description	Tag	Verification/Comments	Signatures			
				Contractor	Date	OC SAN	Date
56	Simulation Instructions: Place Low Level Interlock switch in ENABLE. Simulate low level condition: this LSLL is a discrete output of an Ultrasonic Level Transmitter. At the level transmitter which sends this signal, simulate Low Low Level by using the transmitter configuration output test mode for the transmitter discrete output.	27CLSL639	☐ At HMI, WAIT ☐ At HMI, [PUMP 1 LOLO LEVEL] Alarm				
57	Terminate simulation.	27CLSL639	☐ VFD does not run ☐ At VFD, READY light is off ☐ At HMI, WAIT ☐ At HMI, [PUMP 1 LOLO LEVEL] Alarm				
58	Press LOCAL reset button.	27CLSL639	☐ VFD does not run ☐ At VFD, READY light is on ☐ At HMI, WAIT ☐ At HMI, [PUMP 1 LOLO LEVEL] Alarm				
59	Press HMI reset button.	27CLSL639	☐ VFD starts, VFD is ON ☐ At VFD, READY light is on ☐ At HMI, OK ☐ At HMI, no [PUMP 1 LOLO LEVEL] Alarm				
REMOTE MANUAL SHUTDOWN: 27CP5H565, PUMP 1 DISCH HI PRESS							
56	Simulate: 27CP5H565, PUMP 1 DISCH HI PRESS Simulation Instructions: Simulate high process pressure condition at the switch sensing port using a hand operated pump to create the pressure required to actuate the switch at the pressure setpoint. Begin at simulated normal pressure, and raise the pressure to actuate the switch.	27CP5H565	☐ VFD stops running after ____ seconds ☐ At HMI, WAIT ☐ At HMI, [PUMP 1 DISCH HI PRESS] Alarm				

OPERATIONAL READINESS TEST: 27CPMP411							
Index	Action/Description	Tag	Verification/Comments	Signatures			
				Contractor	Date	OC SAN	Date
57	Terminate simulation.	27CPSH565	☐ VFD does not run ☐ At VFD, READY light is off ☐ At HMI, WAIT ☐ At HMI, [PUMP 1 DISCH HI PRESS] Alarm				
58	Press LOCAL reset button.	27CPSH565	☐ VFD does not run ☐ At VFD, READY light is on ☐ At HMI, WAIT ☐ At HMI, [PUMP 1 DISCH HI PRESS] Alarm				
59	Press HMI reset button.	27CPSH565	☐ VFD starts, VFD is ON ☐ At VFD, READY light is on ☐ At HMI, OK ☐ At HMI, no [PUMP 1 DISCH HI PRESS] Alarm				
REMOTE MANUAL SHUTDOWN: 27CVSHH750, PUMP 1 HIHI VIB							
56	Simulate: 27CVSHH750, PUMP 1 HIHI VIB Simulation Instructions: Simulate High High Vibration circuit by triggering the output of the vibration monitor panel (consult equipment manual). Test from the vibration monitor panel output. If the vibration monitor panel output goes to another device (PLC for example) include that device and all interconnecting wiring in this test.	27CVSHH750	☐ VFD stops running after ____ seconds ☐ At HMI, WAIT ☐ At HMI, [PUMP 1 HIHI VIB] Alarm				
57	Terminate simulation.	27CVSHH750	☐ VFD does not run ☐ At VFD, READY light is off ☐ At HMI, WAIT ☐ At HMI, [PUMP 1 HIHI VIB] Alarm				
	Press LOCAL reset button.		☐ VFD does not run ☐ At VFD, READY light is on				

OPERATIONAL READINESS TEST: 27CPMP411							
Index	Action/Description	Tag	Verification/Comments	Signatures			
				Contractor	Date	OC SAN	Date
58		27CVSHH750	☐ At HMI, WAIT ☐ At HMI, [PUMP 1 HIHI VIB] Alarm				
59	Press HMI reset button.	27CVSHH750	☐ VFD starts, VFD is ON ☐ At VFD, READY light is on ☐ At HMI, OK ☐ At HMI, no [PUMP 1 HIHI VIB] Alarm				
REMOTE MANUAL ALARM: 27CTSH711, PUMP 1 VFD CAB HI TEMP							
60	Simulate: 27CTSH711, PUMP 1 VFD CAB HI TEMP Simulation Instructions: Actuate the high temperature switch with a heat source at the switch sensor.	27CTSH711	☐ VFD stays running ☐ At VFD, [PUMP 1 VFD CAB HI TEMP] light is on ☐ At HMI, [PUMP 1 VFD CAB HI TEMP] Alarm				
61	Terminate simulation	27CTSH711	☐ At VFD, [PUMP 1 VFD CAB HI TEMP] light is off ☐ At HMI, no [PUMP 1 VFD CAB HI TEMP] Alarm				
REMOTE MANUAL ALARM: 27CHS639, P1 WW LOLO LVL DISABLE							
60	Simulate: 27CHS639, P1 WW LOLO LVL DISABLE Simulation Instructions: Simulate Low Low Level Shutdown condition (refer to Low Low Level Switch Test for this equipment), with switch in DISABLE position. The equipment should be allowed to operate with the switch in the DISABLE position. (Low Low Level Shutdown Test was performed with this switch in the ENABLE position). VERIFY - Switch status indication is correct at RIO and HMI.	27CHS639	☐ VFD stays running ☐ At VFD, [P1 WW LOLO LVL DISABLE] light is on ☐ At HMI, [P1 WW LOLO LVL DISABLE] Alarm				

OPERATIONAL READINESS TEST: 27CPMP411							
Index	Action/Description	Tag	Verification/Comments	Signatures			
				Contractor	Date	OC SAN	Date
61	Terminate simulation	27CHS639	☐ At VFD, [P1 WW LOLO LVL DISABLE] light is off ☐ At HMI, no [P1 WW LOLO LVL DISABLE] Alarm				
REMOTE MANUAL ALARM: 27CHS750, PMP 1 HIHI VIB DISABLE							
60	Simulate: 27CHS750, PMP 1 HIHI VIB DISABLE Simulation Instructions: Simulate High High Vibration Shutdown condition (refer to High High Vibration Test for this equipment), with switch in DISABLE position. The equipment should be allowed to operate with the switch in the DISABLE position. (High High Vibration Shutdown Test was performed with this switch in the ENABLE position). VERIFY - Switch status indication is correct at RIO and HMI.	27CHS750	☐ VFD stays running ☐ At VFD, [PMP 1 HIHI VIB DISABLE] light is on ☐ At HMI, [PMP 1 HIHI VIB DISABLE] Alarm				
61	Terminate simulation	27CHS750	☐ At VFD, [PMP 1 HIHI VIB DISABLE] light is off ☐ At HMI, no [PMP 1 HIHI VIB DISABLE] Alarm				
REMOTE MANUAL - END							
62	While VFD is running in "MANUAL" from the HMI. Stop the VFD from the HMI.		☐ VFD stops ☐ At VFD, ON light is off ☐ At VFD, OFF light illuminated ☐ At HMI, OFF				
PROTECTION CIRCUIT RESTORATION AFTER TESTING							
63	Pump Discharge Check Valve Fail to Open Circuit: In this step, reverse any steps taken to defeat the Check Valve Fail to Open protection circuit. Refer to the PROTECTION CIRCUIT PREP section of this test.		<u>Check one:</u> ☐ N/A ☐ Check Valve Limit Switch was manually manipulated and has been restored to normal ☐ Temporary jumpers for Check Valve Limit Switch contact are removed ☐ Other: 				

OPERATIONAL READINESS TEST: 27CPMP411							
Index	Action/Description	Tag	Verification/Comments	Signatures			
				Contractor	Date	OC SAN	Date

64	Seal Water Low Flow Protection Circuit: In this step, reverse any steps taken to defeat the Seal Water Low Flow protection circuit. Refer to the PROTECTION CIRCUIT PREP section of this test.		<u>Check one:</u> ☐ N/A ☐ Seal Water Flow Switch was manually manipulated to simulate the position when water is flowing and has been restored to normal ☐ Temporary jumpers for the Seal Water Flow Switch contact are removed ☐ Other: _____ _____ _____				
65	Wetwell Low Low Level Circuit: In this step, reverse any steps taken to defeat Wetwell Low Low Level Circuit. Refer to the PROTECTION CIRCUIT PREP section of this test.		<u>Check one:</u> ☐ N/A ☐ Well Low Low Level protection level switches were manually manipulated to simulate water in the wetwell, and the switches have been restored to normal ☐ Temporary jumpers across the Wetwell Low Low Level Switch are removed ☐ At the level transmitter which sends this signal, remove Low Low Level simulation for the transmitter discrete output. ☐ Other: _____ _____ _____				
66	Pump Discharge Valve - OPEN - Permissive/Interlock: In this step, reverse any steps taken to defeat Pump Discharge Valve - OPEN - Permissive/Interlock. Refer to the PROTECTION CIRCUIT PREP section of this test.		☐ N/A ☐ Method: _____ _____ _____ _____ _____ _____ _____ _____				

OPERATIONAL READINESS TEST: 27CPMP411							
Index	Action/Description	Tag	Verification/Comments	Signatures			
				Contractor	Date	OC SAN	Date
67	Lube Oil Pump - ON - Permissive/Interlock: In this step, reverse any steps taken to defeat Lube Oil Pump - ON - Permissive/Interlock. Refer to the PROTECTION CIRCUIT PREP section of this test.		☐ N/A ☐ Method: _____ _____ _____ _____ _____ _____ _____				
END							
68	Turn off the circuit breaker at the VFD lockout per approved LOTO procedure.		☐ At VFD, power is OFF				
69	End of Test						

OPERATIONAL READINESS TEST	
PROJECT: J-117B-Outfall Low Flow Pump Station COMMISSIONING PACKAGE: OOBs PUMPS 1&2 EQUIPMENT TAG NO.: 24GFCP441 DESCRIPTION: OOBs PUMP #1 DISCHARGE VALVE	DATE: _____ ORT NUMBER: 5.12 RIO PANEL: 24GFCP042C P&ID: 24G-NP-120
OPERATIONAL READINESS TEST: 24GFCP441	
☐ Confirm that Electrical Energization Approval has been given by OC SAN for the subject Equipment, as defined in the specifications, has been submitted, and accepted.	
☐ Confirm the SAT Database, HMI Graphics, and PLC Program, have been loaded and are ready for the subject ORT to be performed.	
<u>Utilities and Mechanical Services Available for Tests (contractor Commissioning Coordinator complete this section prior to test)</u> - Prior to field testing, record in this section, steps to prevent interference with plant operation, prevent mechanical damage and assure complete and safe test:	
<u>Pre-Job Safety</u> (contractor Commissioning Coordinator complete this section prior to test):	
1. ☐ A Job Hazard Analysis shall be prepared for the test. 2. ☐ Enact Lockout plan per the standards approved in the Commissioning Plan submittal. 3. ☐ Prepare and present JHA at Commissioning Coordination Meeting Prior to proceeding with the field tests. 4. ☐ Include the JHA in the test booklet for permanent record.	
Approval to Begin ORT TEST: 24GFCP441	
_____ Contractor Commissioning Coordinator Date	_____ OC SAN Commissioning Coordinator Date
<u>RECORD START TIME AND DATE</u> TIME: _____ DATE: ____/____/____	<u>RECORD END TIME AND DATE</u> TIME: _____ DATE: ____/____/____

OPERATIONAL READINESS TEST: 24GFCP441							
Index	Action/Description	Tag	Verification/Comments	Signatures			
				Contractor	Date	OC SAN	Date
PRE-CHECK							
1	Review approvals page, confirm permission to begin this test has been provided.		☐ Permission has been provided				
2	Verify proper Lock-Out-Tag-Out activities are performed, refer to approvals page.		☐ LOTO activities complete				
3	Verify valve is safe to operate, refer to approvals page.		☐ Equipment is ready and safe as documented on the approvals page of this ORT				
4	At valve SWI, place power disconnect (SWI) to ON.		☐ Power Disconnect (SWI) is ON				
LOCAL							
5	Place LOCAL-STOP-REMOTE (LSR) selector switch in LOCAL position and switch the OPEN-OFF-CLOSE (OC) (spring return to center) selector switch to CLOSE.	24GHS441B 24GZSO441 24GZSC441	☐ At FCP, LSR switch is in LOCAL position ☐ At valve, CLOSED light is on and valve is in full closed position ☐ At RIO, I/O, [D6,S5,R1,P7 - 100247] REMOTE is 0 ☐ At RIO, I/O [D6,S5,R1,P9 - 100249] OPENED is 0 ☐ At RIO, I/O [D6,S5,R1,P8 - 100248] CLOSED is 1 ☐ At HMI, CLOSED, LOCAL, WAIT				
6	At RIO, verify the OPEN COMMAND and CLOSE COMMAND outputs are OFF.	24GFV441 24GFV441A	☐ At RIO, I/O [D6,S6,R1,P3 - 00035] OPEN is 0 ☐ At RIO, I/O [D6,S6,R1,P4 - 00036] CLOSE is 0				
7	At FCP, switch the OC switch to OPEN.	24GZSO441 24GZSC441	☐ At valve, OPENED light is on and valve is in full opened position ☐ Record Valve Opening Travel Time: _____seconds ☐ At RIO, I/O [D6,S5,R1,P9 - 100249] OPENED is 1 ☐ At RIO, I/O [D6,S5,R1,P8 - 100248] CLOSED is 0 ☐ At HMI, OPENED				
8	At FCP, switch the OC switch to CLOSE.	24GZSO441 24GZSC441	☐ At valve, CLOSED light is on and valve is in full closed position ☐ Record Valve Closing Travel Time: _____seconds ☐ I/O [D6,S5,R1,P9 - 100249] OPENED is 0 ☐ At RIO, I/O [D6,S5,R1,P8 - 100248] CLOSED is 1 ☐ At HMI, CLOSED				
9	At valve, place power disconnect (SWI) in OFF position.		☐ Power Disconnect (SWI) is OFF ☐ Valve remains in the closed position				
10	At valve, place power disconnect (SWI) in ON position.		☐ Power Disconnect (SWI) is ON ☐ Valve remains in the closed position				
11	At valve FCP, switch the OC switch to OPEN.		☐ At valve, OPENED light is on and valve is in full opened position				
12	At valve, place power disconnect (SWI) in OFF position.		☐ Power Disconnect (SWI) is OFF				

OPERATIONAL READINESS TEST: 24GFCP441							
Index	Action/Description	Tag	Verification/Comments	Signatures			
				Contractor	Date	OC SAN	Date
12			☐ Valve, remains in the opened position				
13	At valve, place power disconnect (SWI) in ON position.		☐ Power Disconnect (SWI) is ON ☐ Valve, remains in the opened position				
14	At valve FCP, switch the OC switch to CLOSE.		☐ At valve, CLOSED light is on and valve is in full closed position				
REMOTE MANUAL							
15	At valve FCP, switch LSR to REMOTE.	24GHS441B	☐ At valve FCP, LSR switch is in REMOTE position ☐ At RIO, [D6,S5,R1,P7 - 100247] REMOTE is 0 ☐ HMI, CLOSED, REMOTE, OK				
16	At HMI press OPEN button.	24GZSO441 24GZSC441	☐ At HMI, selected to OPEN ☐ Valve opens to full opened position ☐ I/O [D6,S5,R1,P9 - 100249] OPENED is 1 ☐ I/O [D6,S5,R1,P8 - 100248] CLOSED is 0 ☐ At HMI, OPENED				
17	At HMI press CLOSE button.	24GZSO441 24GZSC441	☐ At HMI, selected to CLOSE ☐ Valve closes to full closed position ☐ I/O [D6,S5,R1,P9 - 100249] OPENED is 0 ☐ I/O [D6,S5,R1,P8 - 100248] CLOSED is 1 ☐ At HMI, CLOSED				
18	At valve, place power disconnect (SWI) in OFF position.		☐ Power Disconnect (SWI) is OFF ☐ At HMI, valve remains in the closed position				
19	At valve, place power disconnect (SWI) in ON position.		☐ Power Disconnect (SWI) is ON ☐ At HMI, valve remains in the closed position				
20	At HMI, press OPEN button.		☐ At FCP, OC switch is in OPEN position ☐ At HMI, valve travels to full opened position				
21	At valve, place power disconnect (SWI) in OFF position.		☐ Power Disconnect (SWI) is OFF ☐ At HMI, valve remains in the opened position				
22	At valve, place power disconnect (SWI) in ON position.		☐ Power Disconnect (SWI) is ON ☐ At HMI, valve remains in the opened position				
23	At HMI press CLOSE button.	24GZSO441 24GZSC441	☐ At HMI, selected to CLOSE ☐ Valve closes to full closed position ☐ I/O [D6,S5,R1,P9 - 100249] OPENED is 0 ☐ I/O [D6,S5,R1,P8 - 100248] CLOSED is 1 ☐ At HMI, CLOSED				
FAIL TO OPEN, FAIL TO CLOSE TESTS							
24	At RIO or valve, disconnect the CLOSED position signal wire.	24GZSO441 24GZSC441	☐ At RIO or valve, CLOSED position signal wire disconnected: Terminal: _____ ☐ I/O [D6,S5,R1,P9 - 100249] OPENED is 0 ☐ I/O [D6,S5,R1,P8 - 100248] CLOSED is 0 ☐ At HMI, not OPENED or CLOSED, REMOTE, OK				

OPERATIONAL READINESS TEST: 24GFCP441							
Index	Action/Description	Tag	Verification/Comments	Signatures			
				Contractor	Date	OC SAN	Date
			☐ At HMI, FAIL TO CLOSE Alarm				
25	At RIO or valve, connect the CLOSED position signal wire.	24GZSO441 24GZSC441	☐ At RIO or valve, CLOSED position signal wire connected: Terminal: _____ ☐ I/O [D6,S5,R1,P9 - 100249] OPENED is 0 ☐ I/O [D6,S5,R1,P8 - 100248] CLOSED is 1 ☐ At HMI, CLOSED, OK ☐ At HMI, no FAIL TO CLOSE Alarm				
26	At HMI press OPEN button.	24GZSO441 24GZSC441	☐ At HMI, selected to OPEN ☐ Valve opens to full opened position ☐ I/O [D6,S5,R1,P9 - 100249] OPENED is 1 ☐ I/O [D6,S5,R1,P8 - 100248] CLOSED is 0 ☐ At HMI, OPENED				
27	At RIO or valve, disconnect the OPENED position signal wire.	24GZSO441 24GZSC441	☐ At RIO or valve, OPENED position signal wire disconnected: Terminal: _____ ☐ I/O [D6,S5,R1,P9 - 100249] OPENED is 0 ☐ I/O [D6,S5,R1,P8 - 100248] CLOSED is 0 ☐ At HMI, not OPENED or CLOSED, REMOTE, OK ☐ At HMI, FAIL TO OPEN Alarm				
28	At RIO or valve, connect the OPENED position signal wire.	24GZSO441 24GZSC441	☐ At RIO or valve, OPENED position signal wire connected: Terminal: _____ ☐ I/O [D6,S5,R1,P9 - 100249] OPENED is 1 ☐ I/O [D6,S5,R1,P8 - 100248] CLOSED is 0 ☐ HMI, OPENED, OK ☐ At HMI, no FAIL TO OPEN Alarm				
29	At HMI press CLOSE button.	24GZSO441 24GZSC441	☐ At HMI, selected to CLOSE ☐ Valve closes to full closed position ☐ I/O [D6,S5,R1,P9 - 100249] OPENED is 0 ☐ I/O [D6,S5,R1,P8 - 100248] CLOSED is 1 ☐ At HMI, CLOSED				
ALARM: 24GYS441B, PUMP 1 DIS VLV TROUBLE							
32	Simulate: 24GYS441B, PUMP 1 DIS VLV TROUBLE Simulation Instructions: Create a condition at the device that causes the Trouble contact to be actuated. Notate how the Trouble was created: _____ _____ _____	24GYS441B	☐ At RIO, I/O [D6,S5,R1,P6 - 100246] [PUMP 1 DIS VLV TROUBLE] is 1 ☐ At HMI, [PUMP 1 DIS VLV TROUBLE] Alarm				

OPERATIONAL READINESS TEST: 24GFCP441							
Index	Action/Description	Tag	Verification/Comments	Signatures			
				Contractor	Date	OC SAN	Date
33	Terminate simulation	24GYS441B	☐ At RIO, I/O [D6,S5,R1,P6 - 100246] [PUMP 1 DIS VLV TROUBLE] is C ☐ At HMI, no [PUMP 1 DIS VLV TROUBLE] Alarm				
END							
34	At FCP place power disconnect (SWI) to OFF.		☐ Power Disconnect (SWI) is OFF				
35	End of test						

EXHIBIT 23

PRE-FAT PROCEDURE EXAMPLES

PRE-FAT	
PROJECT: J-117B-Outfall Low Flow Pump Station COMMISSIONING PACKAGE: PWPS PUMP STATION EQUIPMENT TAG NO.: 27CPMP411 DESCRIPTION: PWPS PUMP #1	DATE: _____ PRE-FAT NUMBER: 4.08 RIO PANEL: 27CFCP500A P&ID: 27C-NP-520
FUNCTIONAL ACCEPTANCE TEST: 27CPMP411	
Utilities and Mechanical Services Available for Tests (contractor Commissioning Coordinator complete this section prior to test) - Prior to field testing, record in this section, steps to prevent interference with plant operation, prevent mechanical damage and assure complete and safe test:	
Motor Driven Equipment: ☐ The motor and driven equipment (pump, etc.) will be operated, all related systems and equipment are ready to support a complete and safe test.	
<u>Pre-Job Safety</u> (contractor Commissioning Coordinator complete this section prior to test): 1. ☐ A Job Hazard Analysis shall be prepared for the test. 2. ☐ Enact Lockout plan per the standards approved in the Commissioning Plan submittal. 3. ☐ Prepare and present JHA at Commissioning Coordination Meeting Prior to proceeding with the field tests. 4. ☐ Include the JHA in the test booklet for permanent record.	
Approval to Begin FAT TEST: 27CPMP411	
_____ Contractor Commissioning Coordinator Date	_____ OC SAN Commissioning Coordinator Date
<u>RECORD START TIME AND DATE</u> TIME: _____ DATE: ____/____/____	<u>RECORD END TIME AND DATE</u> TIME: _____ DATE: ____/____/____

FUNCTIONAL ACCEPTANCE TEST: 27CPMP411							
Index	Action/Description	Tag	Verification/Comments	Signatures			
				Contractor	Date	OC SAN	Date
PRE-CHECK							
1	Review approvals page, confirm permission to begin this test has been provided.		☐ Permission has been provided				
2	Verify proper Lock-Out-Tag-Out activities are performed, refer to approvals page.		☐ LOTO activities complete				
3	Verify motor is coupled to the driven equipment.		☐ Equipment is ready and safe as documented on the approvals page of this ORT				
(N)	NOTE: This test is a combined effort between OC SAN and the Contractor under the direction of the Contractor's Commissioning Coordinator. The purpose of the test is to verify that equipment shutdowns properly operate with water.						
REMOTE MANUAL - BEGIN							
4	Place HOR in REMOTE		☐ VFD does not start ☐ At HMI, REMOTE, OK, no Alarm				
5	Place the equipment in "MANUAL" at the HMI, set the speed command to 80% speed, select the VFD to start.		☐ VFD starts at 80% command - Actual: ____ %				
REMOTE MANUAL SHUTDOWN: 27CFSL499, PUMP 1 SW LO FLOW							
6	Simulate: 27CFSL499, PUMP 1 SW LO FLOW Simulation Instructions: Start the equipment, verify the seal water control valve operates correctly- 1) When equipment is on, seal water valve allows flow immediately, 2) When equipment stops, seal water valve stops flow immediately. With equipment ON, create low process flow condition at the switch by stopping the seal water flow until the flow indicator on the rotameter drops to 0. Begin with normal flow with the pump operating, then close the water supply valve to actuate the low flow switch. Reduce time for the seal water shutdown to the lowest setting. Return time setting to the original setpoint after the shutdown.	27CFSL499	☐ VFD stops running after ____ seconds ☐ At HMI, WAIT ☐ At HMI, [PUMP 1 SW LO FLOW] Alarm				
	Terminate simulation.		☐ VFD does not run				

FUNCTIONAL ACCEPTANCE TEST: 27CPMP411							
Index	Action/Description	Tag	Verification/Comments	Signatures			
				Contractor	Date	OC SAN	Date
7		27CFSL499	☐ At VFD, READY light is off ☐ At HMI, WAIT ☐ At HMI, [PUMP 1 SW LO FLOW] Alarm				
8	Press LOCAL reset button.	27CFSL499	☐ VFD does not run ☐ At VFD, READY light is on ☐ At HMI, WAIT ☐ At HMI, [PUMP 1 SW LO FLOW] Alarm				
9	Press At HMI,reset button.	27CFSL499	☐ VFD starts, VFD is ON ☐ At VFD, READY light is on ☐ At HMI, Ok ☐ At HMI, no [PUMP 1 SW LO FLOW] Alarm				
REMOTE MANUAL SHUTDOWN: 27CLSL639, PUMP 1 LOLO LEVEL							
6	Simulate: 27CLSL639, PUMP 1 LOLO LEVEL Simulation Instructions: Create actual low level condition to prove the low level switch function. Record: Actual level when the switch triggers _____ ft Function circuit time delay: _____ seconds	27CLSL639	☐ VFD stops running after _____ seconds ☐ At HMI, WAIT ☐ At HMI, [PUMP 1 LOLO LEVEL] Alarm				
7	Terminate simulation.	27CLSL639	☐ VFD does not run ☐ At VFD, READY light is off ☐ At HMI, WAIT ☐ At HMI, [PUMP 1 LOLO LEVEL] Alarm				
8	Press LOCAL reset button.	27CLSL639	☐ VFD does not run ☐ At VFD, READY light is on ☐ At HMI, WAIT ☐ At HMI, [PUMP 1 LOLO LEVEL] Alarm				
9	Press At HMI,reset button.	27CLSL639	☐ VFD starts, VFD is ON ☐ At VFD, READY light is on ☐ At HMI, Ok ☐ At HMI, no [PUMP 1 LOLO LEVEL] Alarm				
REMOTE MANUAL SHUTDOWN: 27CPSH565, PUMP 1 DISCH HI PRESS							

FUNCTIONAL ACCEPTANCE TEST: 27CPMP411							
Index	Action/Description	Tag	Verification/Comments	Signatures			
				Contractor	Date	OC SAN	Date
6	Simulate: 27CPSH565, PUMP 1 DISCH HI PRESS Simulation Instructions: Create actual high pressure at the pump discharge by manually pinching closed a valve at the pump discharge piping. Carefully monitor discharge pressure compared to the shutdown pressure setpoint. Do not fully close the valve. Stop the test if discharge pressure does not reach the setpoint, and evaluate whether the setpoint value is correct, or other conditions such as system hydraulic conditions and switch sensing line issues.	27CPSH565	☐ VFD stops running after _____ seconds ☐ At HMI, WAIT ☐ At HMI, [PUMP 1 DISCH HI PRESS] Alarm				
7	Terminate simulation.	27CPSH565	☐ VFD does not run ☐ At VFD, READY light is off ☐ At HMI, WAIT ☐ At HMI, [PUMP 1 DISCH HI PRESS] Alarm				
8	Press LOCAL reset button.	27CPSH565	☐ VFD does not run ☐ At VFD, READY light is on ☐ At HMI, WAIT ☐ At HMI, [PUMP 1 DISCH HI PRESS] Alarm				
9	Press At HMI,reset button.	27CPSH565	☐ VFD starts, VFD is ON ☐ At VFD, READY light is on ☐ At HMI, Ok ☐ At HMI, no [PUMP 1 DISCH HI PRESS] Alarm				
REMOTE MANUAL - END							
12	While equipment is running in "MANUAL" from the At HMI. Stop the VFD from the At HMI.		☐ VFD stops ☐ At HMI, OFF				
END							
13	Turn off the circuit breaker at the VFD lockout per approved LOTO procedure.		☐ At VFD, power is off				
14	End of test.						

EXHIBIT 24

SAMPLE FAT PROCEDURE

**P1-105: Headworks Rehabilitation at Plant No. 1
Functional Acceptance Test Procedure 12-FAT-1:
Drainage Lift Station**

Orange County Sanitation District
P1-105: Headworks Rehabilitation at Plant No. 1

Functional Acceptance Test

Test Procedure 12-FAT-1 Drainage Lift Station

P1-105: Headworks Rehabilitation at Plant No. 1
Functional Acceptance Test Procedure 12-FAT-1:
Drainage Lift Station

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P1-105: Headworks Rehabilitation at Plant No. 1
Functional Acceptance Test Procedure 12-FAT-1:
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P1-105: Headworks Rehabilitation at Plant No. 1
Functional Acceptance Test Procedure 12-FAT-1:
Drainage Lift Station

FAT Approach

FAT is a combined effort between OC SAN and the Contractor that is directed by the Commissioning Coordinator. The purpose of the FAT is to test all equipment, instruments, and software as an integrated system. The drainage lift station is an area drainage pump station equipped with two submersible pumps, an ultrasonic level sensor, and a float switch. Stormwater runoff in the headworks area, grit handling building floor drains, Tunnels 6 & 7 drain sump, and other various drains are routed to the drainage lift station. The water collected in the Drainage Lift Station is pumped to the Bar Screen Inlet Channel via a common drain header in Tunnel 1. The Drainage Lift Station FAT will demonstrate full local & remote functionality for the system. After the completion of the control and status testing, a trouble indication test shall be performed. Process and Instrumentation Diagrams of the Drainage Lift Station are presented in Appendix B.

This test is accomplished with the lift station wet well periodically filled with plant water in order to maintain pump submergence. Alternative to periodical filling, the pump discharge water may be recirculated back into the wet well with temporary piping. A qualified person familiar with the installation and operation of PLC panels will be present full time for the FAT duration.

The FAT is scheduled for four work days per calendar week and 40 hours per work week. The FAT for the Drainage Lift Station is scheduled for three work days. This allows time for troubleshooting each PLC system.

Activities	Day		
	1	2	3
Local/Manual			
Remote/manual			
Remote/Auto			

FAT activities include, but are not limited to, the following:

- Confirm the network between the HMI system and various component PLCs have been connected.
- Test field action of the drainage lift station; place the system in the **Local Manual** mode and operate equipment with local control.
- Test field action of the drainage lift station; place the system elements in the **Remote Manual** mode. The drainage lift station equipment operates from the HMI system.
- Test all alarm points. Simulate all alarms at each field device. Verify the alarm status at the HMI system and equipment shutdown.
- Test field action of the drainage lift station; place the system elements in the **Remote Automatic** mode. The drainage lift station operates from the PLC controls.

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Functional Acceptance Test Procedure 12-FAT-1:
Drainage Lift Station

- Inspect all equipment systems and subsystems for proper installation.
- Confirm successful testing on all necessary electrical testing of electric motors, motor control centers, and instrumentation.
- Verify the systems and subsystems are capable of performing their intended functions and are ready for Reliability Acceptance Testing (RAT).

System Description

The wet well is equipped with two submersible pumps that discharge into a large gravity drain header in Tunnel 1, which in turn discharges into the Bar Screen Inlet channel. The pumps are driven by constant speed motors. The discrete inputs to the PLC from the MCC are Ready, Remote, On, Overload (O/L), Moisture Alarm, and High Motor Temperature. The Run command is the only discrete output from the PLC to the MCC.

An ultrasonic level sensor provides two discreet level inputs to the PLC for pump on and pump off. A float switch provides for the High Level Alarm discrete input to the PLC.

System Control Strategy

The drainage pumps shall have Local Manual, Remote Manual, and Remote Automatic Control. The Operator may operate the pumps locally or remotely. In Local Manual and Remote Manual control, the pumps do not start automatically.

In Local Manual, the Operator may start the Lead pump locally. The Operator may start the Lead pump remotely when the OK status is displayed at the HMI A/M Station. After the pump is started, either locally or remotely, the pump shall shut down automatically when the level reaches the Pump Off level switch point. In Remote Automatic control, the pump is started and stopped automatically by the PLC.

The High Level Alarm shall be inhibited at the HMI when the Drainage Pump is in Remote Automatic control or when the pump is running in Local or Remote Manual control.

Drainage Pumps 1 and 2

The Drainage Lift Station wet well has two constant-speed submersible pumps. Each drainage pump has a high temperature switch, a moisture sensor switch, and a discharge pressure gauge. There is one analog signal to the PLC for lift station wet well level indication. There are four discrete input signals to the PLC for the lift station: High Level from the ultrasonic level element, High Level from the float switch, Lead Pump On, and Lead Pump Off. There are five discrete input signals to the PLC for each pump: Ready, Remote, On, High Motor Temperature, and Overload. There is one discrete output (Run) from the PLC to start/stop each pump. The Drainage Lift Station pumping system is run in the following control modes:

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Drainage Lift Station

Local/Manual:

Local controls for the drainage pumps are provided at the MCC and include a LOCAL-REMOTE (LR) selector switch, a START pushbutton, a STOP pushbutton, and a RESET pushbutton. Adjacent to the pump discharge piping, there is a field control station that includes a JOG pushbutton and ENABLE/DISABLE (ED) selector switch.

- a) For Local Manual Control, the operator places the pump LR selector switch, located at the MCC, to the LOCAL position. The pump will not start automatically in Local Manual Control.
- b) When the water level is at the Pump On level switch point, the "Start Pump" panel light turns on at the MCC. The Operator must press the START pushbutton at the MCC in order to start the pumping.
- c) The Operator can press the STOP pushbutton to stop the pump or wait until the water level drops the Lead Pump Off level switch point when the pump will automatically turn off. Any time the level is below the Lead Pump Off level switch point, the pump will run only by pressing the JOG pushbutton.
- d) When the operator places the pump LR selector switch in the REMOTE position, control is transferred to the PLC. If the pump is in Remote and is running, switching the LR from REMOTE to LOCAL will stop the pump and require the START button to be pressed at the MCC to restart the pump.

When the ED selector switch is placed in the DISABLE position, the pump is disabled, prevented from running in any mode. When the ED selector switch is placed in the ENABLE position, the local or remote control of the pumps is allowed. The JOG pushbutton is used to confirm that all power to the motor has been disconnected. If the JOG pushbutton is depressed, the motor will run regardless of the LR or the ED switch position, but will not run if the breaker to the motor is open.

Remote/Manual:

Remote manual control is only available if the MCC mounted LR selector switch is in the REMOTE position.

- a) In Remote Manual, when the Operator presses the ON pushbutton at the HMI, the pump will start. The pump runs continuously until the Operator presses the OFF pushbutton at the HMI or the level in the lift station wet well falls below the Lead Pump Off level switch point.
- b) The Operator can push the Reset pushbutton at the A/M Station to clear an alarm in the PLC logic. The alarm shall reset only if the alarm condition in the field no longer exists.
- c) The Operator can place the Pump Out-of-Service on the Configuration Screen at the HMI. Placing the Pump Out-of-Service inhibits remote operation of the pump.

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Drainage Lift Station

Remote/Auto:

Remote Automatic control is only available if the MCC mounted LR selector switch is in the REMOTE position.

- a) By selecting the AUTO soft switch, the Operator initiates automatic operation of the drainage pumping system.
- b) In Remote Automatic mode, the pump will start automatically when the water level reaches the Lead Pump On level switch set point. The lead pump will stop when the level reaches the Pump Off level switch point. The High Level alarm is inhibited when Auto is selected at HMI A/M Station.
- c) The standby pump will start automatically upon the failure of the lead pump.
- d) When the Level 3 Power Restart Permissive No. 1 and the Level 3 Power status signal are both present at the PLC, the pumps will not run under Remote Automatic control until normal power is restored. The pumps may be run using Local Manual or Remote Manual control only.

Drainage Lift Station Wet Well Level Sensor

One ultrasonic level sensor shall provide level indication in the drainage lift station wet well. It supplies two discrete input signals; one is for the PLC Lead Pump On and local Start Pump indication at the MCC, while the other is for the PLC Lead Pump Off and is used for local pump shutdown at the MCC.

In Remote Automatic, the Lead Pump On and Lead Pump Off discrete input signals are used to automatically start and stop the lead pump. In Local Manual control, the Start Pump local indication is used to alert an Operator at the MCC that a drainage pump may be started. The Lead Pump On and Off signals are hardwired into the MCC. The Lead Pump On signal turns on a "Start Pump" light at the MCC. The Lead Pump Off signal serves as the Pump On permissive and the Pump Off level shutdown.

Drainage Lift Station Wet Well Float Level Switch

One float level switch provides level indication in the drainage lift station wet well. It supplies the discrete input signal for the PLC High Level Alarm and local High Level Alarm at the MCC.

The High Level Alarm in the PLC and HMI shall be inhibited when the drainage pump is in Remote Automatic control or when the pump is running in Local or Remote Manual control.

Instrumentation

Wet well level sensor, wet well float level switch, motor temperature sensors, motor moisture sensors.

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Functional Acceptance Test Procedure 12-FAT-1:
Drainage Lift Station

Support Systems

- a) Plant water for conducting the test.
- b) The pump discharge header discharges into a common drain header in Tunnel 1, which in turn drains to the Bar Screen Inlet Channel. Provide temporary piping as required and recirculate the pump discharge back into the wet well if the common drain header in Tunnel 1 is not available due to construction activities at the time of this testing.

Testing Objectives

This functional acceptance test will demonstrate that the Drainage Lift Station subsystems and equipment function as required per control strategy 17300N. All FAT systems will be filled with plant water during this functional testing.

Individual equipment provided in this system will be tested to demonstrate proper functionality in the following phases:

In the **Local/Manual**, **Remote/Manual**, and **Remote/Automatic** phases of testing, local protective interlocks will be checked for proper function and alarm indication (local and remote) . Using instrumentation provided in the system, available operating data will be recorded during tests on individual equipment items run at different operating conditions When the **Local/Manual**, **Remote/Manual**, and **Remote/Automatic** testing phases are completed, all witnessing parties should mutually agree with a high level of certainty that all field-installed system components are completely ready for **RAT** testing.

Performance Testing

Testing will be done to visually verify operation at the drainage pumps. Data Tables are located in Appendix E to document observations.

Testing Participants

The testing procedures in this functional acceptance test plan will be run by at least two members of the Contractor's Construction Commissioning Team. The Contractor's testing team will be familiar with all aspects of the system as well as other systems and equipment related to the process having participated in previous Operational Readiness Testing (ORT) activities. During testing activities, one Contractor's testing team member will be stationed at the equipment in the field being tested and the other will be stationed at the nearest OC SAN Human Machine Interface (HMI) to verify remote alarms and/or signals and to start or stop equipment. There will be at least one OC SAN witness to observe testing activities. A Contractor's testing team member and OC SAN's witness will sign their initials next to each activity in the procedure following its successful completion. Failed testing activities will be noted on the Testing Deficiency List (see Appendix D).

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Functional Acceptance Test Procedure 12-FAT-1:
Drainage Lift Station

Testing Prerequisites

Prior to the start of the functional acceptance test for this system the following activities shall be completed:

- Operational Readiness Test (ORT) must be completed with approval by OCSD.
- The Drainage Lift Station discharge piping to the Bar Screen Inlet Channel must be completed and successfully leak tested, unless the flow is being recirculated during the testing.
- Misc. - Includes electrical transformers, switchgear, instrument air, etc. must be completed and ready for operation.

The documents as a reference to develop these functional acceptance testing procedures can be found in Appendix A.

System and Component Setpoints

The Setpoint List found in Appendix C identifies process control set points that have been established to ensure that the system and its equipment function properly as well as individual equipment component settings deemed necessary to prevent damage due to abnormal operation. This Setpoint List was developed based on parameters provided in the contract documents, contract correspondence, and/or manufacturer's literature in addition to being provided by the manufacturer's representatives or identified during ORT testing. During this functional acceptance test, the testing team will verify these setpoints, update settings as necessary, and record any other setpoints not identified in the approved functional acceptance test plan, but identified by the testing team or witnesses as worthy of being recorded.

Testing Deficiency List

Failed testing activities will be noted on the Testing Deficiency List. This Testing Deficiency List will also include items where systems or equipment functioned in a manner different than what was indicated in the testing procedure due to an interpretation error or items such as burned out light bulbs or leaks. A blank version of the Testing Deficiency List can be found in Appendix D.

P1-105: Headworks Rehabilitation at Plant No. 1
Functional Acceptance Test Procedure 12-FAT-1:
Drainage Lift Station

Testing Completion

Testing will be considered complete after all testing procedure activities have been successfully demonstrated and all Testing Deficiencies have been resolved as signed off by OCSD's authorized witness. The Contractor will request that OCSD's witness or approving authority sign the Functional Acceptance Test Completion Certificate (FATCC) , a sample is shown in the introduction after all of the procedures have been verified and signed off (initialed) as being complete, the Testing Deficiency List has been updated to show resolution of all deficiencies and the Setpoint List has been updated to show any changes/additions identified during testing. The FATCC, updated Set Point List, and the updated Testing Deficiency List will be inserted into a record manual that will hold each completed functional acceptance test plan and the entire document will be submitted as the FAT Report for that system. A copy of the signed FATCC will be submitted along with the other system FATCCs as part of the Phase I Commissioning Report. Testing will be considered complete after all testing procedure activities have been successfully demonstrated and all Testing Deficiencies have been resolved as signed off by OCSD's authorized witness. The Contractor will request that OC SAN's witness or approving authority sign the Functional Acceptance Test Completion Certificate (FATCC), a sample is shown in the introduction after all of the procedures have been verified and signed off (initialed) as being complete, the Testing Deficiency List has been updated to show resolution of all deficiencies and the Setpoint List has been updated to show any changes/additions identified during testing. The FATCC, updated Set Point List, and the updated Testing Deficiency List will be inserted into a record manual that will hold each completed functional acceptance test plan and the entire document will be submitted as the FAT Report for that system. A copy of the signed FATCC will be submitted along with the other system FATCCs as part of the Phase I Commissioning Report.

P1-105: Headworks Rehabilitation at Plant No. 1
Functional Acceptance Test Procedure 12-FAT-1:
Drainage Lift Station

Pre-test Walkthrough Equipment List

Loop Tag No.	Description	Type	Initial Conditions	Verified Contractor's	Verified OC SAN
10APMP079	DRAINAGE PUMP 1	PUMP	OFF		
10APMP089	DRAINAGE PUMP 2	PUMP	OFF		
10ALS084	WET WELL LEVEL SENSOR	SENSOR	OFF		
10ALSH085	WET WELL LEVEL FLOAT SWITCH	SWITCH	OFF		
	To be Populated for DS3				

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Functional Acceptance Test Procedure 12-FAT-1:
Drainage Lift Station

Testing Procedure

Drainage Lift Station

The following equipment will be checked in Local/Manual, Remote/Manual, and Remote/Automatic modes to verify operation and readiness for

10APMP079	10APMP089
To be Populated for DS3	

The purpose of this test is to demonstrate that the drainage lift station system properly pumps out water from the Drainage Lift Station wet well in Local/Manual, Remote/Manual, or Remote/Auto modes. The test also demonstrates the alarm and shutdown requirements. Be sure to conduct the Pre-Test Walkthrough to verify proper valve installation and initial conditions of equipment before starting these tests.

For **Local/Manual** testing, the drainage pumps are manually operated from the field control station at the MCC and the local controls at the lift station. For **Remote/Manual** testing, the drainage pumps are manually operated from the HMI with the field selector switches in **Remote**. For **Remote/Automatic** testing, the drainage pumps are automatically operated from the PLC when the field selector switches are in **Remote** and the HMI and **Auto** soft switches are selected at the A/M Station.

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Functional Acceptance Test Procedure 12-FAT-1:
Drainage Lift Station

Local Manual Operation

Local/Manual Test – drainage pumps – Controlled at Field Control Stations or Panels

Procedure	Verify Function	Verify		Notes / Operational Data	Verified Contractor	Verified OC SAN
		A Action	F Function			
Note: Ensure RIO/PLC panels are energized before MCC Tub is energized						
1. To be populated for DS3.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						

P1-105: Headworks Rehabilitation at Plant No. 1
Functional Acceptance Test Procedure 12-FAT-1:
Drainage Lift Station

Remote Manual Operation

Remote/Manual Test – drainage pumps – Controlled at HMI

Procedure	Verify Function	Verify		Notes / Operational Data	Verified Contractor	Verified OC SAN
		A Action	F Function			
Note: Ensure RIO/PLC panels are energized before MCC Tub is energized						
-						
1. To be populated for DS3.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						

P1-105: Headworks Rehabilitation at Plant No. 1
Functional Acceptance Test Procedure 12-FAT-1:
Drainage Lift Station

Remote Auto Operation

Remote/Auto Test – drainage pumps – Controlled at PLC

Procedure	Verify Function	Verify		Notes / Operational Data	Verified Contractor	Verified OC SAN
		A Action	F Function			
Note: Ensure RIO/PLC panels are energized before MCC Tub is energized						
-						
1. To be populated for DS3.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						

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Functional Acceptance Test Procedure 12-FAT-1:
Drainage Lift Station

Appendix A: References

- P&ID: 10A-NP-180
- **Submittal 01810: Commissioning Plan Volume 1**
- Specification Section 11312K: Submersible Medium Capacity Centrifugal Pumps
- Specification Section 17300N: Control Strategies
- Specification Section 17405: Process Instrumentation and Control

Appendix B: Drainage Lift Station System Schematics

To be populated for DS3.

P1-105: Headworks Rehabilitation at Plant No. 1
Functional Acceptance Test Procedure 12-FAT-1:
Drainage Lift Station

Appendix C: Setpoint List

12-FAT-1: Drainage Lift Station System

P1-105 Headworks Rehabilitation at Plant No. 1

Setpoint List

Loop Tag Number	Inst Descr	Setpoint Function	Setpoint Location	Initial Trigger Setpoint R=Rising, F=Falling		Initial Reset Setpoint	Setpoint Units	Source of Initial Setpoints	Final Trigger Setpoint	Final Reset Setpoint	Notes / Calibration Date
To be Populated for DS3											

INST	Instrument
FCP	Field Control Panel
MCC	Motor Control Center
LCP	Local Control Panel
PLC	Programmable Logic Controller
HMI	Human Machine Interface
VFD	Variable Frequency Drive
NA	Not Applicable
SECS	Seconds
GPM	Gallons Per Minute

P1-105: Headworks Rehabilitation at Plant No. 1
Functional Acceptance Test Procedure 12-FAT-1:
Drainage Lift Station

Appendix D: Testing Deficiency List

Resp. Codes

C – Contractor D - OC SAN **E – Carollo**

<u>P1-105: Headworks Rehabilitation at Plant No. 1</u>							
<u>12-FAT-1, Drainage Lift Station</u>							
<u>Area</u>	<u>No.</u>	<u>Deficiency/Issue</u>	<u>Comment</u>	<u>Origin</u>	<u>FAT</u>	<u>Resp.</u>	<u>Status</u>
12							

P1-105: Headworks Rehabilitation at Plant No. 1
Functional Acceptance Test Procedure 12-FAT-1:
Drainage Lift Station

Appendix E: Testing Performance Data Tables

Note:.

Equipment	Tag	Operation Verified	Notes	Witnessed By
DRAINAGE PUMP 1	10APMP079			
DRAINAGE PUMP 2	10APMP089			
WET WELL LEVEL SENSOR	10ALS084			
WET WELL LEVEL FLOAT SWITCH	10ALSH085			
To be Populated for DS3				

Orange County Sanitation District
P1-105: Headworks Rehabilitation at Plant No. 1

Functional Acceptance Test

Test Procedure 20-FAT-1 **Bar Screen Gates**

P1-105: Headworks Rehabilitation at Plant No. 1
Functional Acceptance Test Procedure 20-FAT-1: Bar Screen Gates

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P1-105: Headworks Rehabilitation at Plant No. 1
Functional Acceptance Test Procedure 20-FAT-1: Bar Screen Gates

FAT Approach

FAT is a combined effort between OC SAN and the Contractor that is directed by the Commissioning Coordinator. The purpose of the FAT is to test all equipment, instruments, and software as an integrated system. FAT is typically performed using clean water. However, the FAT for the bar screen gates will be performed with raw sewage since the bar screen facility must remain in service. The Gate FATs will demonstrate full functionality through five complete cycles of operation. Each gate will be cycled twice to demonstrate local control and status and then three times to demonstrate manual control and status at the HMI. After the completion of the control and status testing, a trouble indication test shall be performed. Process and Instrumentation Diagrams of the Bar Screen System are presented in Appendix B.

This test is accomplished with the system on-line under normal operating conditions. Equipment operates with raw sewage from the M&D structure. A qualified person familiar with the installation and operation of PLC panels will be present full time for the FAT duration.

The FAT is scheduled for four work days per calendar week and 40 hours per work week. There are six bar screen channels plus a central emergency bypass channel with a total of 18 motor operated gates. The FAT for the Bar Screen Gates is scheduled for one work day per bar screen channel or bypass channel. This allows time for troubleshooting each PLC system.

Activities	Day
Bar Screen Gates	1
Local/Manual	
Remote/manual	

FAT activities include, but are not limited to, the following:

- Confirm the network between the HMI system and various component PLCs have been connected.
- Test individual gates from the HMI system.
- Test field action of devices; place the system in the **Local Manual** mode. Each gate opens and closes from the motorized operator.
- Test field action of gates; place the system in the **Remote Manual** mode. Each gate opens and closes from the HMI system. Verify the fully open / fully close position indication for each gate.
- Test trouble alarm points. Simulate all alarms at each field device, and verify the alarm status at the HMI system.
- There is no **Remote Auto** mode for the Bar Screen Gates.
- Inspect all equipment systems and subsystems for proper installation.

P1-105: Headworks Rehabilitation at Plant No. 1
Functional Acceptance Test Procedure 20-FAT-1: Bar Screen Gates

- Confirm successful leak testing on all gates.
- Confirm successful testing on all necessary electrical testing of electric motors, motor control centers, and instrumentation.
- Verify the systems and subsystems are capable of performing their intended functions and are ready for Reliability Acceptance Testing (RAT).
- Confirm that the gate will not try to close further when remote close command is given and gate is fully closed, cycle power (480VAC) with SWI, make sure the gate does not try to travel to close the gate further. Same shall be tested while opened position.

System Description

Bar Screen Gates 10CGAT311 and 312 for Bar Screen Channel 1 are typical for Bar Screens 1 through 6 and are used to control the raw sewage feed to the bar screens and send flow to the Bar Screen Effluent Channel.

The Emergency Bypass Channel is isolated by normally closed influent and effluent gates 10CGAT371 and 372.

The center portion of the Bar Screen Influent Channel is isolated by normally open gates 10CGAT302 and 303, which allows for equalization between the two halves of the channel. Similarly, the center portion of the Bar Screen Effluent Channel is isolated by normally open gates 10CGAT376 and 377, which allows for equalization between the two halves of the channel.

System Control Strategy

The bar screen gates shall normally be controlled by the PLC in the Remote/Manual mode. The gate position status and alarm shall be monitored by the PLC for display at the HMI. The PLC shall control the gate as described below.

Control Modes

The bar screen gates are run in the following control modes:

Local/Manual:

Integral to the motorized operator is a LOCAL-STOP-REMOTE (LSR) selector switch, which is lockable in the STOP position. a) LOCAL: Enables the motorized operator integral OPEN/CLOSE selector switch. The OPEN/CLOSE selector switch is a three-position, spring-return-to-center switch. The OPEN/CLOSE selector switch latches in the respective function until the gate reaches the internal limit switch setting or the STOP function is selected at the LSR selector switch. The integral OPEN/CLOSE selector switch is disabled when the LSR switch is in REMOTE. b) STOP: Stops the motorized operator and inhibits Local and Remote control. c) REMOTE: Control of the gate is transferred to the PLC.

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Functional Acceptance Test Procedure 20-FAT-1: Bar Screen Gates

Remote/Manual:

Remote manual control is only available if the field-mounted LSR at the actuator is in the REMOTE position.

- (a) The Operator can select OPEN or CLOSE at the HMI A/M Station.
- (b) The Operator can push the Reset pushbutton at the HMI A/M Station to clear an alarm in the PLC logic. The alarm shall reset only if the alarm condition in the field no longer exists.
- (c) The Operator can place the gate Out of Service on the Configuration Screen at the HMI. Placing the gate Out of Service inhibits remote operation of the gate.

Remote / Auto:

None.

Instrumentation

Actuator Position Switches.

Support Systems

A stop plate is to be temporarily installed in the Bar Screen Influent Channel.

Testing Objectives

This functional acceptance test will demonstrate that the bar screen gates subsystems and equipment function as required per control strategy 17300B. All FAT systems will be filled with wastewater to their normal operating levels during this functional testing.

Individual equipment provided in this system will be tested to demonstrate proper functionality in the following phases:

In the **Local/Manual** and **Remote/Manual** phases of testing, local protective interlocks will be checked for proper function and alarm indication (local and remote). Using instrumentation provided in the system, available operating data will be recorded during tests on individual equipment items run at different operating conditions. When the **Local/Manual** and **Remote/Manual** testing phases are completed, all witnessing parties should mutually agree with a high level of certainty that all field-installed system components are completely ready for **RAT** testing.

Performance Testing

Performance Testing will be done to visually verify operation for all gates. Data Tables are located in Appendix E to document observations.

P1-105: Headworks Rehabilitation at Plant No. 1
Functional Acceptance Test Procedure 20-FAT-1: Bar Screen Gates

Testing Participants

The testing procedures in this functional acceptance test plan will be run by at least two members of the Contractor's Construction Commissioning Team. The Contractor's testing team will be familiar with all aspects of the system as well as other systems and equipment related to the process having participated in previous Operational Readiness Testing (ORT) activities. During testing activities, one Contractor's testing team member will be stationed at the equipment in the field being tested and the other will be stationed at the nearest OC SAN Human Machine Interface (HMI) to verify remote alarms and/or signals and to start or stop equipment. There will be at least one OC SAN witness to observe testing activities. A Contractor's testing team member and OC SAN's witness will sign their initials next to each activity in the procedure following its successful completion. Failed testing activities will be noted on the Testing Deficiency List (see Appendix D).

Testing Prerequisites

Prior to the start of the functional acceptance test for this system the following activities shall be completed:

- Operational Readiness Test (ORT) must be completed with approval by OCSD.
- Misc. - Includes electrical transformers, switchgear, instrument air, etc. must be completed and ready for operation.
- Witnessing Parties shall conduct an Actuator and Equipment Verification of Initial Conditions Walkthrough using the Equipment List located in the Pre-Test Walkthrough section of this document that follows.

The documents as a reference to develop these functional acceptance testing procedures can be found in Appendix A.

System and Component Setpoints

The Setpoint List found in Appendix C identifies process control set points that have been established to ensure that the system and its equipment function properly as well as individual equipment component settings deemed necessary to prevent damage due to abnormal operation. This Setpoint List was developed based on parameters provided in the contract documents, contract correspondence, and/or manufacturer's literature in addition to being provided by the manufacturer's representatives or identified during ORT testing. During this functional acceptance test, the testing team will verify these setpoints, update settings as necessary, and record any other setpoints not identified in the approved functional acceptance test plan, but identified by the testing team or witnesses as worthy of being recorded.

P1-105: Headworks Rehabilitation at Plant No. 1
Functional Acceptance Test Procedure 20-FAT-1: Bar Screen Gates

Testing Deficiency List

Failed testing activities will be noted on the Testing Deficiency List. This Testing Deficiency List will also include items where systems or equipment functioned in a manner different than what was indicated in the testing procedure due to an interpretation error or items such as burned out light bulbs or leaks. A blank version of the Testing Deficiency List can be found in Appendix D.

Testing Completion

Testing will be considered complete after all testing procedure activities have been successfully demonstrated and all Testing Deficiencies have been resolved as signed off by OCSD's authorized witness. The Contractor will request that OCSD's witness or approving authority sign the Functional Acceptance Test Completion Certificate (FATCC), a sample is shown in the introduction after all of the procedures have been verified and signed off (initialed) as being complete, the Testing Deficiency List has been updated to show resolution of all deficiencies and the Setpoint List has been updated to show any changes/additions identified during testing. The FATCC, updated Set Point List, and the updated Testing Deficiency List will be inserted into a record manual that will hold each completed functional acceptance test plan and the entire document will be submitted as the FAT Report for that system. A copy of the signed FATCC will be submitted along with the other system FATCCs as part of the Phase I Commissioning Report. Testing will be considered complete after all testing procedure activities have been successfully demonstrated and all Testing Deficiencies have been resolved as signed off by OCSD's authorized witness. The Contractor will request that OCSD's witness or approving authority sign the Functional Acceptance Test Completion Certificate (FATCC), a sample is shown in the introduction after all of the procedures have been verified and signed off (initialed) as being complete, the Testing Deficiency List has been updated to show resolution of all deficiencies and the Setpoint List has been updated to show any changes/additions identified during testing. The FATCC, updated Set Point List and the updated Testing Deficiency List will be inserted into a record manual that will hold each completed functional acceptance test plan and the entire document will be submitted as the FAT Report for that system. A copy of the signed FATCC will be submitted along with the other system FATCCs as part of the Phase I Commissioning Report.

P1-105: Headworks Rehabilitation at Plant No. 1
Functional Acceptance Test Procedure 20-FAT-1: Bar Screen Gates

Pre-test Walkthrough Equipment List

Loop Tag No.	Description	Type	Initial Conditions	Verified Contractor's	Verified OC SAN
10CGAT311	BAR SCREEN INLET GATE 1	GATE	CLOSED		
	To be Populated for DS3				

P1-105: Headworks Rehabilitation at Plant No. 1
Functional Acceptance Test Procedure 20-FAT-1: Bar Screen Gates

Testing Procedure

Manual Operation and Control

Motorized Gates

The following actuators will be checked in Local/Manual and Remote/Manual mode to verify operation and readiness for

10CGAT302
10CGAT303
10CGAT311
10CGAT312
10CGAT321
10CGAT322
10CGAT331
10CGAT332
10CGAT341
10CGAT342
10CGAT351
10CGAT352
10CGAT361
10CGAT362
10CGAT371
10CGAT372
10CGAT376
10CGAT377

The purpose of this test is to demonstrate that the motorized gate operators properly open and close their dedicated gates when operating in Local/Manual and Remote/Manual modes. These bar screen

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Functional Acceptance Test Procedure 20-FAT-1: Bar Screen Gates

gates control water flows from the Bar Screen Influent Channel through the bar screens and to the Bar Screen Effluent Channel. This test demonstrates actuators and instrumentation while confirming that their operational status is indicated properly at the local controls that are integral to the gate operators and at the CRISP graphic. Be sure to conduct the Pre-Test Walkthrough to verify proper gate alignment and initial conditions of equipment before starting these tests.

For **Local/Manual** testing, the gates are manually opened and closed from the control station that is integral with the gate operator. For **Remote/Manual** testing, the gates are manually opened and closed from the HMI with the local control selector switch in **Remote**.

Local & Remote Manual Operation

Local /Manual Test – Motorized Gates – Controlled at Gate Operators

Local – Place gate in Local control confirm Local indication at gate controller. Open / Close – Open or close gate using the actuator Open Close switch until the desired position is achieved indicated confirm gate's physical position and record position indication observed at actuator and at the HMI. Confirm Limits – During the opening and closing cycles confirm proper Open and Closed position indicator at the actuator as well as the proper Open and Closed indication at the HMI.																	
Loop Tag No	Description	Local	Action	0% Open										100% Open		Verified Contractor	Verified OC SAN
				At Gate	At CRISP									At Gate	At CRISP		
10CGAT311	Bar Screen Inlet Gate 1		Open														
			Confirm Position														
			Close														
10CGAT312	Bar Screen Outlet Gate 1		Open														
			Confirm Position														
			Close														
10CGAT321	Bar Screen Inlet Gate 2		Open														
			Confirm Position														
			Close														
10CGAT322	Bar Screen Outlet Gate 2		Open														
			Confirm Position														
			Close														
Notes:																	

Date	Date

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Functional Acceptance Test Procedure 20-FAT-1: Bar Screen Gates

Local /Manual Test – Motorized Gates – Controlled at Gate Operators

Local – Place gate in Local control confirm Local indication at gate controller. Open / Close – Open or close gate using the actuator Open Close switch until the desired position is achieved indicated confirm gate's physical position and record position indication observed at actuator and at the HMI. Confirm Limits – During the opening and closing cycles confirm proper Open and Closed position indicator at the actuator as well as the proper Open and Closed indication at the HMI.																		
Loop Tag No	Description	Local	Action	0% Open										100% Open		Verified Contractor	Verified OC SAN	
				At Gate	At CRISP													At Gate
10CGAT331	Bar Screen Inlet Gate 3		Open															
			Confirm Position															
			Close															
10CGAT332	Bar Screen Outlet Gate 3		Open															
			Confirm Position															
			Close															
10CGAT341	Bar Screen Inlet Gate 4		Open															
			Confirm Position															
			Close															
10CGAT342	Bar Screen Outlet Gate 4		Open															
			Confirm Position															
			Close															
10CGAT351	Bar Screen Inlet Gate 5		Open															
			Confirm Position															
			Close															
10CGAT352	Bar Screen Outlet Gate 5		Open															
			Confirm Position															
			Close															
10CGAT361	Bar Screen Inlet Gate 6		Open															
			Confirm Position															
			Close															
10CGAT362	Bar Screen Outlet Gate 6		Open															
			Confirm Position															
			Close															
Notes:																		
															Date	Date		

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Functional Acceptance Test Procedure 20-FAT-1: Bar Screen Gates

Local /Manual Test – Motorized Gates – Controlled at Gate Operators

Local – Place gate in Local control confirm Local indication at gate controller. Open / Close – Open or close gate using the actuator Open Close switch until the desired position is achieved indicated confirm gate's physical position and record position indication observed at actuator and at the HMI. Confirm Limits – During the opening and closing cycles confirm proper Open and Closed position indicator at the actuator as well as the proper Open and Closed indication at the HMI.																	
Loop Tag No	Description	Local	Action	0% Open										100% Open		Verified Contractor	Verified OC SAN
				At Gate	At CRISP												
10CGAT302	Bar Screen Influent Channel Gate 2		Open														
			Confirm Position														
			Close														
10CGAT303	Bar Screen Influent Channel Gate 1		Open														
			Confirm Position														
			Close														
10CGAT371	Emergency Bypass Inlet Gate		Open														
			Confirm Position														
			Close														
10CGAT372	Emergency Bypass Outlet Gate		Open														
			Confirm Position														
			Close														
10CGAT376	Bar Screen Effluent Channel Gate 2		Open														
			Confirm Position														
			Close														
10CGAT377	Bar Screen Effluent Channel Gate 1		Open														
			Confirm Position														
			Close														
Notes:																	
															Date	Date	

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Functional Acceptance Test Procedure 20-FAT-1: Bar Screen Gates

Remote /Manual Test – Motorized Gates – Controlled at HMI

Remote – Place gate in Remote control confirm Remote indication at gate controller. Open / Close – Open or close gate using the HMI Open Close switch until the desired position is achieved indicated confirm gate's physical position and record position indication observed at actuator and at the HMI. Confirm Limits – During the opening and closing cycles confirm proper Open and Closed position indicator at the actuator as well as the proper Open and Closed indication at the HMI.																	
Loop Tag No	Description	Remote	Action	0% Open										100% Open		Verified Contractor	Verified OC SAN
				At Gate	At CRISP									At Gate	At CRISP		
10CGAT311	Bar Screen Inlet Gate 1		Open														
			Confirm Position														
			Close														
10CGAT312	Bar Screen Outlet Gate 1		Open														
			Confirm Position														
			Close														
10CGAT321	Bar Screen Inlet Gate 2		Open														
			Confirm Position														
			Close														
10CGAT322	Bar Screen Outlet Gate 2		Open														
			Confirm Position														
			Close														
Notes:																	
															Date	Date	

P1-105: Headworks Rehabilitation at Plant No. 1
Functional Acceptance Test Procedure 20-FAT-1: Bar Screen Gates

Remote /Manual Test – Motorized Gates – Controlled at HMI

Remote – Place gate in Remote control confirm Remote indication at gate controller. Open / Close – Open or close gate using the HMI Open Close switch until the desired position is achieved indicated confirm gate's physical position and record position indication observed at actuator and at the HMI. Confirm Limits – During the opening and closing cycles confirm proper Open and Closed position indicator at the actuator as well as the proper Open and Closed indication at the HMI.																	
Loop Tag No	Description	Remote	Action	0% Open										100% Open		Verified Contractor	Verified OC SAN
				At Gate	At CRISP									At Gate	At CRISP		
10CGAT331	Bar Screen Inlet Gate 3		Open														
			Confirm Position														
			Close														
10CGAT332	Bar Screen Outlet Gate 3		Open														
			Confirm Position														
			Close														
10CGAT341	Bar Screen Inlet Gate 4		Open														
			Confirm Position														
			Close														
10CGAT342	Bar Screen Outlet Gate 4		Open														
			Confirm Position														
			Close														
10CGAT351	Bar Screen Inlet Gate 5		Open														
			Confirm Position														
			Close														
10CGAT352	Bar Screen Outlet Gate 5		Open														
			Confirm Position														
			Close														
10CGAT361	Bar Screen Inlet Gate 6		Open														
			Confirm Position														
			Close														
10CGAT362	Bar Screen Outlet Gate 6		Open														
			Confirm Position														
			Close														
Notes:																	
															Date	Date	

P1-105: Headworks Rehabilitation at Plant No. 1
Functional Acceptance Test Procedure 20-FAT-1: Bar Screen Gates

Remote /Manual Test – Motorized Gates – Controlled at HMI

Remote – Place gate in Remote control confirm Remote indication at gate controller. Open / Close – Open or close gate using the HMI Open Close switch until the desired position is achieved indicated confirm gate's physical position and record position indication observed at actuator and at the HMI. Confirm Limits – During the opening and closing cycles confirm proper Open and Closed position indicator at the actuator as well as the proper Open and Closed indication at the HMI.																		
Loop Tag No	Description	Local	Action	0% Open										100% Open		Verified Contractor	Verified OC SAN	
				At Gate	At CRISP													At Gate
10CGAT302	Bar Screen Influent Channel Gate 2		Open															
			Confirm Position															
			Close															
10CGAT303	Bar Screen Influent Channel Gate 1		Open															
			Confirm Position															
			Close															
10CGAT371	Emergency Bypass Inlet Gate		Open															
			Confirm Position															
			Close															
10CGAT372	Emergency Bypass Outlet Gate		Open															
			Confirm Position															
			Close															
10CGAT376	Bar Screen Effluent Channel Gate 2		Open															
			Confirm Position															
			Close															
10CGAT377	Bar Screen Effluent Channel Gate 1		Open															
			Confirm Position															
			Close															
Notes:																		
																Date	Date	

P1-105: Headworks Rehabilitation at Plant No. 1
Functional Acceptance Test Procedure 20-FAT-1: Bar Screen Gates

Trouble Alarms & Testing Notes – Motorized Gates

Trouble at HMI – Simulate a Trouble condition confirm Trouble indication at HMI and CRISP Trouble Reset – Remove Trouble condition and verify that Trouble condition is no longer indicated at the HMI and CRISP Notes – Record any irregularities problems or anything else worth mention in the space below									
Loop Tag No	Description				Trouble at CRISP	Trouble Reset	Notes	Verified Contractor	Verified OC SAN
10CGAT311	Bar Screen Inlet Gate 1								
10CGAT312	Bar Screen Outlet Gate 1								
10CGAT321	Bar Screen Inlet Gate 2								
10CGAT322	Bar Screen Outlet Gate 2								
10CGAT331	Bar Screen Inlet Gate 3								
10CGAT332	Bar Screen Outlet Gate 3								
10CGAT341	Bar Screen Inlet Gate 4								
10CGAT342	Bar Screen Outlet Gate 4								
10CGAT351	Bar Screen Inlet Gate 5								
10CGAT352	Bar Screen Outlet Gate 5								
10CGAT361	Bar Screen Inlet Gate 6								
10CGAT362	Bar Screen Outlet Gate 6								
10CGAT302	Bar Screen Influent Channel Gate 2								
10CGAT303	Bar Screen Influent Channel Gate 1								
10CGAT371	Emergency Bypass Inlet Gate								
10CGAT371	Emergency Bypass Outlet Gate								
10CGAT376	Bar Screen Effluent Channel Gate 2								
10CGAT377	Bar Screen Effluent Channel Gate 1								
At this point the field testing has been completed. The equipment is now the responsibility of the contractor.									
Notes:									
								Date	Date

Appendix A: References

- P&ID : 10C-NP-110, 111, 112, 113, 114, 115
- Submittal 01810: Commissioning Plan Volume 1
- Specification Section 11294B: Heavy-Duty Fabricated Stainless Steel Slide Gates
- Specification Section 17300B: Control Strategies
- Specification Section 17405: Process Instrumentation and Control

Appendix B: Bar Screen Gates System Schematic

To be Populated for DS3

P1-105: Headworks Rehabilitation at Plant No. 1
Functional Acceptance Test Procedure 20-FAT-1: Bar Screen Gates

Appendix C: Setpoint List

20-FAT-1: Bar Screen Gates

P1-105: Headworks Rehabilitation at Plant No. 1

Setpoint List - None

Loop Tag Number	Inst Descr	Setpoint Function	Setpoint Location	Initial Trigger Setpoint R=Rising, F=Falling		Initial Reset Setpoint	Setpoint Units	Source of Initial Setpoints	Final Trigger Setpoint	Final Reset Setpoint	Notes / Calibration Date
To be Populated for DS3											

INST	Instrument
FCP	Field Control Panel
MCC	Motor Control Center
LCP	Local Control Panel
PLC	Programmable Logic Controller
HMI	Human Machine Interface
VFD	Variable Frequency Drive
NA	Not Applicable
SECS	Seconds
GPM	Gallons Per Minute
KPC	Kiewit Pacific Corporation

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Functional Acceptance Test Procedure 20-FAT-1: Bar Screen Gates

Appendix D: Testing Deficiency List

Resp. Codes

C – Contractor D - OC SAN E – Carollo

<u>P1-105: Headworks Rehabilitation at Plant No. 1</u>							
<u>20-FAT-1, Bar Screen Gates</u>							
<u>Area</u>	<u>No.</u>	<u>Deficiency/Issue</u>	<u>Comment</u>	<u>Origin</u>	<u>FAT</u>	<u>Resp.</u>	<u>Status</u>
<u>20</u>							

Appendix E: Testing Performance Data Tables

Note:

Gate	Tag	Operation Verified	Notes	Witnessed By
Bar Screen Inlet Gate 1	10CGAT311			
Bar Screen Outlet Gate 1	10CGAT312			
Bar Screen Inlet Gate 2	10CGAT321			
Bar Screen Outlet Gate 2	10CGAT312			
Bar Screen Inlet Gate 3	10CGAT331			
Bar Screen Outlet Gate 3	10CGAT332			
Bar Screen Inlet Gate 4	10CGAT341			
Bar Screen Outlet Gate 4	10CGAT342			
Bar Screen Influent Channel Gate 1	10CGAT303			
Bar Screen Influent Channel Gate 2	10CGAT302			
Emergency Bypass Inlet Gate	10CGAT371			

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Functional Acceptance Test Procedure 20-FAT-1: Bar Screen Gates

Emergency Bypass Outlet Gate	10CGAT372			
Bar Screen Effluent Channel Gate 1	10CGAT377			
Bar Screen Effluent Channel Gate 2	10CGAT376			
Bar Screen Inlet Gate 5	10CGAT351			
Bar Screen Outlet Gate 5	10CGAT352			
Bar Screen Inlet Gate 6	10CGAT361			
Bar Screen Outlet Gate 6	10CGAT362			

EXHIBIT 28

CABLE CONDUIT AND TRAY SCHEDULE
EXAMPLES

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Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks				
C22I720B		22IFCP081	DAFT POWER MONITORING PLC	22ISWGR720	SWGR BC-B	20	1C#14+					
					Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via: Tag	Type
											C22I710	CONDUIT
Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks				
C22I730		22IFCP081	DAFT POWER MONITORING PLC	22IAHU730	DAFT UPS ROOM AHU	9	1C#14+14 AWG					
					Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via: Tag	Type
											C22I730	CONDUIT
Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks				
C22I772		22IFCP081	DAFT POWER MONITORING PLC	22ITSH772	DAFT UPS ROOM TEMP SWITCH	2	1C#14+14 AWG					
					Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via: Tag	Type
											C22I772	CONDUIT
Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks				
C22K001		28KFCP051A	DC-J POWER MONITORING RIO	22KTVSS001	MCC-STA TVSS	3	1C#14+					
					Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via: Tag	Type
											C22K001	CONDUIT
											X1024	CONDUIT
											X1112	CONDUIT
											X1131	CONDUIT
											C22K000	CONDUIT
Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks				
C22K003		28KFCP051A	DC-J POWER MONITORING RIO	22KATS003	TFPS AUTO TRANSFER SWITCH	9	1C#14+					
					Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via: Tag	Type
											C22K003	CONDUIT
											X1024	CONDUIT
											X1112	CONDUIT
											X1131	CONDUIT
											C22K000	CONDUIT
Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks				
C22K004		28KFCP051A	DC-J POWER MONITORING RIO	22KUPS004	TFPS UPS	13	1C#14+					
					Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via: Tag	Type
											C22K004	CONDUIT
											X1024	CONDUIT
											X1112	CONDUIT
											X1131	CONDUIT
											C22K000	CONDUIT
Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks				
C22K004A		28KFCP051A	DC-J POWER MONITORING RIO	22KFBK004	TFPS UPS DISCONNECT	13	1C#14+14 AWG					
					Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via: Tag	Type
											C22K004A	CONDUIT
											X1024	CONDUIT
											X1112	CONDUIT
											X1131	CONDUIT
											C22K000	CONDUIT
Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks				
C22K004B		28KFCP051A	DC-J POWER MONITORING RIO	22KMTS004	TFPS UPS MTS	5	1C#14+14 AWG					
					Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via: Tag	Type
											C22K004B	CONDUIT
											X1024	CONDUIT
											X1112	CONDUIT
											X1131	CONDUIT
											C22K000	CONDUIT

CONFORMED

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Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks					
C22K101		28KFCP051A	DC-J POWER MONITORING RIO	22KTVSS101	MCC-STB TVSS	3	1C#14+14 AWG						
						Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via: Tag	Type
											C22K101	CONDUIT	
											X1024	CONDUIT	
											X1112	CONDUIT	
											X1131	CONDUIT	
											C22K000	CONDUIT	
Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks					
C22K201		28KFCP051A	DC-J POWER MONITORING RIO	22KTVSS201	MCC-STC TVSS	3	1C#14+						
						Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via: Tag	Type
											C22K201	CONDUIT	
											X1024	CONDUIT	
											X1112	CONDUIT	
											X1131	CONDUIT	
											C22K000	CONDUIT	
Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks					
C22K300		28KFCP051A	DC-J POWER MONITORING RIO	22KAHU300	TFPS AHU	5	1C#14+14 AWG						
						Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via: Tag	Type
											C22K300	CONDUIT	
											X1024	CONDUIT	
											X1112	CONDUIT	
											X1131	CONDUIT	
											C22K000	CONDUIT	
Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks					
C22K308		28KFCP051A	DC-J POWER MONITORING RIO	22KTSH308	TFPS TEMP SWITCH	3	1C#14+14 AWG						
						Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via: Tag	Type
											C22K308	CONDUIT	
											X1024	CONDUIT	
											X1112	CONDUIT	
											X1131	CONDUIT	
											C22K000	CONDUIT	
Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks					
C22N001		28KFCP051	DC-J POWER MONITORING PLC	22NTVSS001	MCC-STE TVSS	3	1C#14+						
						Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via: Tag	Type
											C22N001	CONDUIT	
											C22N003A	CONDUIT	
											X1240	CONDUIT	
											X1362	CONDUIT	
											X1264	CONDUIT	
											X1186	CONDUIT	
											X1168	CONDUIT	
											C28K003	CONDUIT	
Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks					
C22N003		28KFCP051	DC-J POWER MONITORING PLC	22NMTS003	ATS-UPS	3	1C#14+						
						Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via: Tag	Type
											C22N003	CONDUIT	
											C22N003A	CONDUIT	
											X1240	CONDUIT	
											X1362	CONDUIT	
											X1264	CONDUIT	
											X1186	CONDUIT	
											X1168	CONDUIT	
											C28K003	CONDUIT	

CONFORMED

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Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks					
P28C004		28CBCP021	LIGHTING PANEL SC-1	28CFCP004	ESC POWER MONITORING PLC	2	1C#12+12 AWG						
					Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via:	Tag	Type
												P28C004	CONDUIT
Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks					
P28C004A		28CBCP101	PNL-USC	28CFCP004	ESC POWER MONITORING PLC	2	1C#12+12 AWG						
					Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via:	Tag	Type
												P28C004A	CONDUIT
Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks					
P28C005		28CBCP021	LIGHTING PANEL SC-1	28CHMI005	ESC HMI	2	1C#12+12 AWG						
					Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via:	Tag	Type
												P28C005	CONDUIT
Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks					
P28C005A		28CBCP101	PNL-USC	28CHMI005	ESC HMI	2	1C#12+12 AWG						
					Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via:	Tag	Type
												P28C005A	CONDUIT
Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks					
P28C006		28CBCP021	LIGHTING PANEL SC-1	28CPAP006	ESC NETWORK PANEL	4	1C#12+12 AWG						
					Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via:	Tag	Type
												P28C006	CONDUIT
Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks					
P28C006A		28CBCP101	PNL-USC	28CPAP006	ESC NETWORK PANEL	4	1C#12+12 AWG						
					Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via:	Tag	Type
												P28C006A	CONDUIT
Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks					
P28C101		22NBCP004	PNL-UPSF	28CBCP101	PNL-USC	4	1C#2/0+4 AWG						
					Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via:	Tag	Type
												P28C101A	CONDUIT
												P28C101B	CONDUIT
												P28C101C	CONDUIT
												P28C101D	CONDUIT
Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks					
P28D032		28DSWGR131	SWGR DS-A	28DMCC032	MCC-DB	3C#350 & #3 GND							
					Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via:	Tag	Type
												T-7098	TRAY
Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks					
P28D032A		28DSWGR131	SWGR DS-A	28DMCC032	MCC-DB	3C#350 & #3 GND							
					Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via:	Tag	Type
												T-7098	TRAY
Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks					
P28D038		28DSWGR132	SWGR DS-B	28DMCC038	MCC-DBS	3C#4/0 & #4 GND							
					Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via:	Tag	Type
												T-7098	TRAY
Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks					
P28D044		28DBCP072	PANEL LPEE	28DHMI044	EPSA POWER MONITORING HMI	2	1C#12+12 AWG						
					Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via:	Tag	Type
												P28D044	CONDUIT

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Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks					
P28D044A		28DDPN095	UPS PNL-UPSE	28DHMI044	EPSA POWER MONITORING HMI	2	1C#12+12 AWG						
					Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via:	Tag	Type
												P28D044A	CONDUIT

Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks					
P28D045		28DBCP072	PANEL LPEE	28DFCP045	EPSA POWER MONITORING PLC	2	1C#12+12 AWG						
					Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via:	Tag	Type
												P28D045	CONDUIT

Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks					
P28D045A		28DDPN095	UPS PNL-UPSE	28DFCP045	EPSA POWER MONITORING PLC	2	1C#12+12 AWG						
					Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via:	Tag	Type
												P28D045A	CONDUIT

Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks					
P28D064		22IDPN668	PNL-STL1 DAFT UPS PANEL	28DATS064	DC-E ATS-UPSE	3C#2 & #6 GND							
					Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via:	Tag	Type
												TPC-6017	TRAY
												TPC-6022	TRAY
												TPC-6901	TRAY
												TPC-6902	TRAY
												T-7100	TRAY
												T-7101	TRAY
												T-7111	TRAY
												T-7113	TRAY
												P28D064U	CONDUIT
												P28D064B	CONDUIT

Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks					
P28D064A		28DATS064	DC-E ATS-UPSE	28DXFMR064	TRANSFORMER T-UPSE	3	1C#8+10 AWG						
					Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via:	Tag	Type
												P28D064C	CONDUIT

Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks					
P28D064B		28DXFMR064	TRANSFORMER T-UPSE	28DDPN095	UPS PNL-UPSE	4	1C#1+6 AWG						
					Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via:	Tag	Type
												P28D064A	CONDUIT

Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks					
P28D064C		28DMCC069	MCC EPSAB	28DATS064	DC-E ATS-UPSE	3	1C#8+10 AWG						
					Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via:	Tag	Type
												P28D064	CONDUIT

Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks					
P28D071		28DBCP034A	PNL-PCA	28DHMI071	DC-B HMI	2	1C#12+12 AWG						
					Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via:	Tag	Type
												P28D071	CONDUIT

Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks					
P28D071A		22IDPN668	PNL-STL1 DAFT UPS PANEL	28DATS071	DC-B ATS-DB1	3C#2 & #6 GND							
					Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via:	Tag	Type
												TPC-6017	TRAY
												TPC-6022	TRAY
												TPC-6901	TRAY
												TPC-6902	TRAY
												T-7100	TRAY
												T-7101	TRAY
												T-7111	TRAY
												T-7113	TRAY
												P28D071B	CONDUIT

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Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks				
S20D476		FCB28I201	DC-H NORTH NETWORK PANEL	20DMON476	MSP 7 POWER MONITOR		CAT6 UTP					
					Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via: Tag	Type
											S28I331	CONDUIT
Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks				
S20H007		27BFCP001	CITY WATER PLC	20HFCP007	PEROXIDE FACILITY PLC		CAT6 UTP					
					Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via: Tag	Type
											S20H007	CONDUIT
Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks				
S21B397		FCB28J301	HEADWORKS STANDBY NETWORK PANEL	21BFCP397	PB J-Q PLC		CAT6 UTP					
					Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via: Tag	Type
											S21B397	CONDUIT
Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks				
S21C384		FCB28J301	HEADWORKS STANDBY NETWORK PANEL	21CFCP384	PB D-I PLC		CAT6 UTP					
					Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via: Tag	Type
											S21C384	CONDUIT
Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks				
S21F602		FCB28G301	POWER BUILDING B FCB	21HMI602	POWER BUILDING B HMI		CAT6 UTP					
					Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via: Tag	Type
											S21602	CONDUIT
Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks				
S22B001		28DPAP091	DC-B NETWORK PANEL	22BFCP001	PEPS PLC		CAT6 UTP					
					Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via: Tag	Type
											S22B001	CONDUIT
Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks				
S22B004		28DPAP091	DC-B NETWORK PANEL	22BMON004	TFR-PEPA FEEDER POWER MONITOR		CAT6 UTP					
					Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via: Tag	Type
											S28D012	CONDUIT
Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks				
S22B212		28DPAP091	DC-B NETWORK PANEL	22BMON212	TFR-PEPC POWER MONITOR		CAT6 UTP					
					Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via: Tag	Type
											S28D013	CONDUIT
Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks				
S22C003		28DPAP091	DC-B NETWORK PANEL	22CMON003	TFR-ESPB POWER MONITOR		CAT6 UTP					
					Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via: Tag	Type
											S28D013	CONDUIT
Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks				
S22C005		FCB22C101	EAST RAS NETWORK PANEL	22CHMI005	ERAS HMI		CAT6 UTP					
					Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via: Tag	Type
											S22C005	CONDUIT
											S22C101	CONDUIT
Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks				
S22C006		FCB22C101	EAST RAS NETWORK PANEL	22CFCP006	ERAS POWER MONITORING PLC		CAT6 UTP					
					Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via: Tag	Type
											S22C006	CONDUIT
											S22C101	CONDUIT

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Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks						
S22C030		FCB22C101	EAST RAS NETWORK PANEL	22CTPR030A	XFMR DIFF RELAY AT SWGR-RASE		CAT6 UTP							
						Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via:	Tag	Type
													S22C030	CONDUIT
													S22C101	CONDUIT
Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks						
S22C031		FCB22C101	EAST RAS NETWORK PANEL	22CTPR031A	XFMR DIFF RELAY AT SWGR-RASE		CAT6 UTP							
						Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via:	Tag	Type
													S22C030	CONDUIT
													S22C101	CONDUIT
Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks						
S22C039		FCB22C101	EAST RAS NETWORK PANEL	22CFCP039	RASWAS PLC		CAT6 UTP							
						Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via:	Tag	Type
													S22C039	CONDUIT
Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks						
S22C041		FCB22C101	EAST RAS NETWORK PANEL	22CFCP041	ECCLR PLC		CAT6 UTP							
						Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via:	Tag	Type
													S22C041	CONDUIT
Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks						
S22C046		28DPAP091	DC-B NETWORK PANEL	22CMON046	TFR-ESPA FEEDER POWER MONITOR		CAT6 UTP							
						Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via:	Tag	Type
													S28D012	CONDUIT
Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks						
S22C048		FCB22C101	EAST RAS NETWORK PANEL	22CMON048	MCC-RASE1 POWER MONITOR		CAT6 UTP							
						Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via:	Tag	Type
													S22C030	CONDUIT
													S22C101	CONDUIT
Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks						
S22C052		FCB22C101	EAST RAS NETWORK PANEL	22CMON052	MCC-RASE2 POWER MONITOR		CAT6 UTP							
						Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via:	Tag	Type
													S22C030	CONDUIT
													S22C101	CONDUIT
Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks						
S22C055		FCB22C101	EAST RAS NETWORK PANEL	22CMON055	MCC-RASE3 POWER MONITOR		CAT6 UTP							
						Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via:	Tag	Type
													S22C030	CONDUIT
													S22C101	CONDUIT
Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks						
S22C057		28DPAP091	DC-B NETWORK PANEL	22CMON057	MCC-RASE4 POWER MONITOR		CAT6 UTP							
						Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via:	Tag	Type
													S28D131	CONDUIT
Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks						
S22D002		FCB22D101	WRAS NETWORK PANEL	22DHMI002	WRAS HMI		CAT6 UTP							
						Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via:	Tag	Type
													S22D002	CONDUIT
Cable Tag:	Volts	From (Equip Tag)	From Description	To (Equip Tag)	To Description	Qty	Conductor	Remarks						
S22D004		FCB22D101	WRAS NETWORK PANEL	22DFCP004	WRAS POWER MONITORING PLC		CAT6 UTP							
						Wire Tag	From Equip	From Terminal	To Equip	To Terminal	To Description	Via:	Tag	Type
													S22D004	CONDUIT

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TAG	SIZE	CABLE TAG	STATUS	FROM TAG	FROM TYPE	TO TAG	TO TYPE	REMARKS
C22B003	3/4 IN	C22B003	NEW	28DFCP073	EQUIPMENT	22BHRGU003	EQUIPMENT	
C22B004	3/4 IN		NEW	28DFCP073	EQUIPMENT	22BXFMR004	EQUIPMENT	
C22B004A	2 IN	C22B004A C22B004B	NEW	28DSWGR012	EQUIPMENT	22BXFMR004	EQUIPMENT	
C22B006	3/4 IN		NEW	28DFCP073	EQUIPMENT	22BHRGU006	EQUIPMENT	
C22B212	3/4 IN	C22B212B	NEW	28DFCP073	EQUIPMENT	22BXFMR212	EQUIPMENT	
C22B212A	2 IN		NEW	28DSWGR013	EQUIPMENT	22BXFMR212	EQUIPMENT	
C22C003	3/4 IN	C22C003A	NEW	22CFCP006	EQUIPMENT	22CXFMR003	EQUIPMENT	
C22C003A	3/4 IN		NEW	22CSWGR030	EQUIPMENT	22CXFMR003	EQUIPMENT	
C22C003B	1-1/2 IN	C22C003C	NEW	22CXFMR003	EQUIPMENT	22CSWGR031	EQUIPMENT	
C22C006	3/4 IN		NEW	22CFCP006	EQUIPMENT	22CYA006	EQUIPMENT	
C22C030	4 IN	C22C030 C22C030A C22C030B C22C031 C22C031A C22C031B	NEW	22CFCP006	EQUIPMENT	22CSWGR030	EQUIPMENT	
C22C030A	3/4 IN		NEW	22CFCP006	EQUIPMENT	22CATS083	EQUIPMENT	
C22C046	3/4 IN		NEW	22CFCP006	EQUIPMENT	22CXFMR046	EQUIPMENT	
C22C046A	3/4 IN		NEW	22CSWGR030	EQUIPMENT	22CXFMR046	EQUIPMENT	
C22C046B	1-1/2 IN		NEW	22CXFMR046	EQUIPMENT	22CSWGR030	EQUIPMENT	
C22C052	3/4 IN	C22C052	NEW	22CFCP006	EQUIPMENT	22CMCC052	EQUIPMENT	
C22C064	3/4 IN		NEW	22CFCP006	EQUIPMENT	22CBCH064	EQUIPMENT	
C22C064A	3/4 IN	C22C064A	NEW	22CFCP006	EQUIPMENT	22CSWI064	EQUIPMENT	
C22C065	3/4 IN		NEW	22CFCP006	EQUIPMENT	22CYS065	EQUIPMENT	
C22C065A	3/4 IN	C22C065A	NEW	22CFCP006	EQUIPMENT	22CTSH065	EQUIPMENT	
C22C083	1 IN		NEW	22CFCP006	EQUIPMENT	22CATS083	EQUIPMENT	
C22C083A	1 IN	C22C083A	NEW	22CFCP006	EQUIPMENT	22CATS083	EQUIPMENT	

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TAG	SIZE	STATUS	CABLE TAG	FROM TAG	FROM TYPE	TO TAG	TO TYPE	REMARKS
C22D004	3/4 IN	C22D004 C22D004A	NEW	22DFCP004	EQUIPMENT	22DYA004	EQUIPMENT	
C22D006	3/4 IN		NEW	22DFCP004	EQUIPMENT	22DMCC043	EQUIPMENT	
C22D036	3/4 IN	C22D036A	NEW	22DFCP004	EQUIPMENT	22DXFMR036	EQUIPMENT	
C22D036A	3/4 IN		NEW	22DSWGR054	EQUIPMENT	22DXFMR036	EQUIPMENT	
C22D036B	1-1/2 IN	C22D036C	NEW	22DXFMR036	EQUIPMENT	22DSWGR054	EQUIPMENT	
C22D053	3/4 IN		NEW	22DFCP004	EQUIPMENT	22DXFMR053	EQUIPMENT	
C22D053A	3/4 IN	C22D053B	NEW	22DSWGR054	EQUIPMENT	22DXFMR053	EQUIPMENT	
C22D053B	1-1/2 IN		NEW	22DXFMR053	EQUIPMENT	22DSWGR054	EQUIPMENT	
C22D057	3/4 IN	C22D057	NEW	22DFCP004	EQUIPMENT	22DBCH057	EQUIPMENT	
C22D057A	3/4 IN		NEW	22DFCP004	EQUIPMENT	22DSWI057	EQUIPMENT	
C22D058	3/4 IN	C22D058	NEW	22DFCP004	EQUIPMENT	22DYS058	EQUIPMENT	
C22D058A	3/4 IN		NEW	22DFCP004	EQUIPMENT	22DTSH058	EQUIPMENT	
C22D076	4 IN	C22D054 C22D054A C22D054B C22D055 C22D055A C22D055B	NEW	22DFCP004	EQUIPMENT	22DSWGR054	EQUIPMENT	
C22D076A	3/4 IN		NEW	22DFCP004	EQUIPMENT	22DATS076	EQUIPMENT	
C22I001	3/4 IN		NEW	22IFCP081	EQUIPMENT	22IMCC680	EQUIPMENT	
C22I081	3/4 IN		NEW	22IFCP081	EQUIPMENT	22IYA081	EQUIPMENT	
C22I540	3/4 IN		NEW	22IFCP081	EQUIPMENT	22IAHU540	EQUIPMENT	
C22I542	3/4 IN	C22I542	NEW	22IFCP081	EQUIPMENT	22IAHU542	EQUIPMENT	
C22I641	3/4 IN		NEW	22IFCP081	EQUIPMENT	22IMTS641	EQUIPMENT	
C22I652	3/4 IN	C22I652	NEW	22IFCP081	EQUIPMENT	22IMTS652	EQUIPMENT	
C22I664	3/4 IN		NEW	22IFCP081	EQUIPMENT	22IUPS664	EQUIPMENT	
C22I665	3/4 IN	C22I665	NEW	22IFCP081	EQUIPMENT	22IATS665	EQUIPMENT	
C22I667	3/4 IN		NEW	22IFCP081	EQUIPMENT	22IFBK667	EQUIPMENT	
		C22I667						

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TAG	SIZE	CABLE TAG	STATUS	FROM TAG	FROM TYPE	TO TAG	TO TYPE	REMARKS
C22I668	3/4 IN	C22I668	NEW	22IFCP081	EQUIPMENT	22ISWI668	EQUIPMENT	
C22I700	3/4 IN		NEW	22ISWGR710	EQUIPMENT	22IXFMR700	EQUIPMENT	
C22I700A	3/4 IN	C22I700B	NEW	22IFCP081	EQUIPMENT	22IXFMR700	EQUIPMENT	
C22I700B	1-1/2 IN	C22I700A	NEW	22IFCP081	EQUIPMENT	22IXFMR700	EQUIPMENT	
C22I701	3/4 IN	C22I700C	NEW	22ISWGR710	EQUIPMENT	22IXFMR700	EQUIPMENT	
C22I701A	3/4 IN	C22I701B	NEW	22ISWGR720	EQUIPMENT	22IXFMR701	EQUIPMENT	
C22I701A	3/4 IN	C22I701A	NEW	22IFCP081	EQUIPMENT	22IXFMR701	EQUIPMENT	
C22I701B	1-1/2 IN	C22I701C	NEW	22ISWGR720	EQUIPMENT	22IXFMR701	EQUIPMENT	
C22I710	4 IN	C22I710 C22I710A C22I710B C22I720 C22I720A C22I720B	NEW	22IFCP081	EQUIPMENT	22ISWGR710	EQUIPMENT	
C22I715	3/4 IN		NEW	22IFCP081	EQUIPMENT	22IBCH715	EQUIPMENT	
C22I715A	3/4 IN		NEW	22IFCP081	EQUIPMENT	22ISWI715	EQUIPMENT	
C22I730	3/4 IN		NEW	22IFCP081	EQUIPMENT	22IAHU730	EQUIPMENT	
C22I772	3/4 IN		NEW	22IFCP081	EQUIPMENT	22ITSH772	EQUIPMENT	
C22K000	2 IN		NEW	28KFCP051A	EQUIPMENT	X1131	CONDUIT	
C22K001	3/4 IN	C22K001 C22K003 C22K004 C22K004A C22K004B C22K101 C22K201 C22K300 C22K308	NEW	PB TFPSE-C	EQUIPMENT	22KTVSS001	EQUIPMENT	
C22K003	3/4 IN	C22K003	NEW	PB TFPSE-C	EQUIPMENT	22KATS003	EQUIPMENT	
C22K004	3/4 IN	C22K004	NEW	PB TFPSE-C	EQUIPMENT	22KUPS004	EQUIPMENT	
C22K004A	3/4 IN	C22K004A	NEW	PB TFPSE-C	EQUIPMENT	22KFBK004	EQUIPMENT	
C22K004B	3/4 IN	C22K004B	NEW	PB TFPSE-C	EQUIPMENT	22KMTS004	EQUIPMENT	
C22K101	3/4 IN	C22K101	NEW	PB TFPSE-C	EQUIPMENT	22KTVSS101	EQUIPMENT	
C22K201	3/4 IN	C22K201	NEW	PB TFPSE-C	EQUIPMENT	22KTVSS201	EQUIPMENT	
C22K300	3/4 IN	C22K300	NEW	PB TFPSE-C	EQUIPMENT	22KAHU300	EQUIPMENT	
C22K308	3/4 IN	C22K308	NEW	PB TFPSE-C	EQUIPMENT	22KTSH308	EQUIPMENT	

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TAG	SIZE	STATUS	CABLE TAG	FROM TAG	FROM TYPE	TO TAG	TO TYPE	REMARKS
C22N001	3/4 IN	C22N001	NEW	PB RSSC-C	EQUIPMENT	22NMCC001	EQUIPMENT	
C22N003	3/4 IN		NEW	28KFCP051A	EQUIPMENT	C22N003	CONDUIT	
C22N003A	2 IN	C22N001 C22N003 C22N003A C22N004 C22N004A C22N004B C22N004C C22N101 C22N430 C22N434	EXISTING	PB RSSC-C	EQUIPMENT	X1240	CONDUIT	
C22N003B	3/4 IN		NEW	PB RSSC-C	EQUIPMENT	22NMTS003	EQUIPMENT	
C22N004	3/4 IN		NEW	PB RSSC-C	EQUIPMENT	22NUPS004	EQUIPMENT	
C22N004A	3/4 IN		NEW	PB RSSC-C	EQUIPMENT	22NFBK004	EQUIPMENT	
C22N004B	3/4 IN		NEW	PB RSSC-C	EQUIPMENT	22NSWI004	EQUIPMENT	
C22N004C	3/4 IN		NEW	PB RSSC-C	EQUIPMENT	22NMTS004	EQUIPMENT	
C22N101	3/4 IN	C22N101	NEW	PB RSSC-C	EQUIPMENT	22NMCC101	EQUIPMENT	
C22N430	3/4 IN	C22N430	NEW	PBRSSC-C	EQUIPMENT	22NAHU430	EQUIPMENT	
C22N434	3/4 IN	C22N434	NEW	PBRSSC-C	EQUIPMENT	22NTSH434	EQUIPMENT	
C27B842	3/4 IN	C27B842	NEW	27BFCP068	EQUIPMENT	27BXFMR842	EQUIPMENT	
C27B843	3/4 IN	C27B843	NEW	27BFCP068	EQUIPMENT	27BXFMR843	EQUIPMENT	
C27B856	1 IN	C27B857A	NEW	27BFCP068	EQUIPMENT	27BATS857	EQUIPMENT	
C27B857	1 IN	C27B856A	NEW	27BFCP068	EQUIPMENT	27BATS856	EQUIPMENT	
C27B859	4 IN	C27B856 C27B857 C27B859	NEW	27BFCP068	EQUIPMENT	27BSWGR859	EQUIPMENT	
C27I001	1 IN	SPB-001	NEW	21IFCP001	EQUIPMENT	PB-DACCESS001	EQUIPMENT	
C28C001	4 IN	C26A002 C28C001 C28C001A C28C003 C28C440 C28K301D C28L001	NEW	28CFCP004	EQUIPMENT	28CSWGR001	EQUIPMENT	
C28C002	4 IN		NEW	28CSWGR002	EQUIPMENT	28CFCP004	EQUIPMENT	

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TAG	SIZE	CABLE TAG	STATUS	FROM TAG	FROM TYPE	TO TAG	TO TYPE	REMARKS
F28H103	3 IN		NEW	TDU25C1-07	EQUIPMENT	FCB28H103	EQUIPMENT	
F28H103A	3 IN		NEW	F28H103	CONDUIT	FCB25C6-01	EQUIPMENT	
F28I008	3 IN		NEW	FCB28I101	EQUIPMENT	28IPAP008	EQUIPMENT	
F28I008A	3 IN		NEW	FCB28I102	EQUIPMENT	28IPAP008	EQUIPMENT	
F28I008B	3 IN		NEW	FCB28I101	EQUIPMENT	28IPAP008	EQUIPMENT	
F28I102A	4 IN		NEW	FCB28I101	EQUIPMENT	FCB28I102	EQUIPMENT	
F28I102B	3 IN		NEW	FACP	EQUIPMENT	FCB28I102	EQUIPMENT	
F28I201	3 IN		NEW	FCB28I102	EQUIPMENT	FCB28I201	EQUIPMENT	
F28J101	3 IN		NEW	FTU28J101	EQUIPMENT	FCB28J101	EQUIPMENT	
F28J301	3 IN		NEW	PBHWSP-M	EQUIPMENT	FCB28J301	EQUIPMENT	
F28J301A	4 IN		NEW	FCB28J301	EQUIPMENT	HWPBPBWEST	EQUIPMENT	
F28J301B	4 IN		NEW	P9105-F	CONDUIT	TDU20C-01	EQUIPMENT	
F28K102	3 IN		NEW	FCB28K101	EQUIPMENT	FCB28K102	EQUIPMENT	
F28K201	3 IN		NEW	FCB28K102	EQUIPMENT	FCB28K201	EQUIPMENT	
F28L102	3 IN		NEW	FCB28L1-01	EQUIPMENT	FCB28L1-02	EQUIPMENT	
F29E001	3 IN		NEW	TDU29E-02	EQUIPMENT	FCB29E-01	EQUIPMENT	
H28D131	5 IN	P28D131	NEW	28DSWGR012	EQUIPMENT	28DXFMR131	EQUIPMENT	
H28D132	5 IN	P28D132	NEW	28DSWGR013	EQUIPMENT	28DXFMR132	EQUIPMENT	
P21B397	3/4 IN	P21B397	NEW	28JBCEP040	EQUIPMENT	21BFCP397	EQUIPMENT	
P21B397A	3/4 IN	P21B397A	NEW	28JBCEP040A	EQUIPMENT	21BFCP397	EQUIPMENT	
P21C384	3/4 IN	P21C384	NEW	28JBCEP040	EQUIPMENT	21CFCEP384	EQUIPMENT	
P21C384A	3/4 IN	P21C384A	NEW	28JBCEP040A	EQUIPMENT	21CFCEP384	EQUIPMENT	
P22C005	3/4 IN	P22C005	NEW	22CBCEP051	EQUIPMENT	22CHMI005	EQUIPMENT	
P22C005A	3/4 IN	P22C005A	NEW	22CBCEP030	EQUIPMENT	22CHMI005	EQUIPMENT	
P22C006	3/4 IN	P22C006	NEW	22CBCEP051	EQUIPMENT	22CFCEP006	EQUIPMENT	
P22C006A	3/4 IN	P22C006A	NEW	22CBCEP030	EQUIPMENT	22CFCEP006	EQUIPMENT	
P22C030A	2 IN	P22C030A	NEW	22CATS083	EQUIPMENT	22CXFMR030	EQUIPMENT	

CONFORMED

TAG	SIZE	STATUS	CABLE TAG	FROM TAG	FROM TYPE	TO TAG	TO TYPE	REMARKS
P22C030B	2 IN	P22C030B	NEW	22CXFMR030	EQUIPMENT	22CBCEP030	EQUIPMENT	
P22C030C	2 IN	P22C030C	NEW	22CMCC048	EQUIPMENT	22CATS083	EQUIPMENT	
P22C083A	3/4 IN	P22C083A	NEW	22CATS083	EQUIPMENT	22CXFMR083	EQUIPMENT	
P22C083B	2 IN	P22C083B	NEW	22CXFMR083	EQUIPMENT	22CBCEP083	EQUIPMENT	
P22C083C	1-1/2 IN	P22C083C	NEW	22CMCC055	EQUIPMENT	22CATS083	EQUIPMENT	
P22D002	3/4 IN	P22D002	NEW	22DBCEP039C	EQUIPMENT	22DHMI002	EQUIPMENT	
P22D002A	3/4 IN	P22D002A	NEW	22DBCEP076	EQUIPMENT	22DHMI002	EQUIPMENT	
P22D004	3/4 IN	P22D004	NEW	22DBCEP039C	EQUIPMENT	22DFCEP004	EQUIPMENT	
P22D004A	3/4 IN	P22D004A	NEW	22DBCEP076	EQUIPMENT	22DFCEP004	EQUIPMENT	
P22D076A	2 IN	P22D076A	NEW	22DATS076	EQUIPMENT	22DXFMR076	EQUIPMENT	
P22D076B	2 IN	P22D076B	NEW	22DXFMR076	EQUIPMENT	22DBCEP076	EQUIPMENT	
P22D076C	1 IN	P22D076C	NEW	22DMCC048	EQUIPMENT	22DATS076	EQUIPMENT	
P22D076D	1 IN		NEW	22IBCEP666	EQUIPMENT	22DATS076	EQUIPMENT	
P22I080	3/4 IN	P22I080	NEW	22IBCEP683	EQUIPMENT	22IHMI080	EQUIPMENT	
P22I080A	3/4 IN	P22I080A	NEW	22IBCEP666	EQUIPMENT	22IHMI080	EQUIPMENT	
P22I081	3/4 IN	P22I081	NEW	22IBCEP683	EQUIPMENT	22IFCEP081	EQUIPMENT	
P22I081A	3/4 IN	P22I081A	NEW	22IBCEP666	EQUIPMENT	22IFCEP081	EQUIPMENT	
P22I082	3/4 IN	P22I082	NEW	22IBCEP653	EQUIPMENT	22IPAP082	EQUIPMENT	
P22I082A	3/4 IN	P22I082A	NEW	22IBCEP666	EQUIPMENT	22IPAP082	EQUIPMENT	
P22I102	3/4 IN	PFCB02E	NEW	22IBCEP683	EQUIPMENT	FCB22I102	EQUIPMENT	
P22I102A	3/4 IN	PFCB02F	NEW	22IBCEP666	EQUIPMENT	FCB22I102	EQUIPMENT	
P25C015	3/4 IN	P25C015A	NEW	25CBCEP653A	EQUIPMENT	25CFCEP015	EQUIPMENT	
P25C015A	3/4 IN	P25C015	NEW	25CBCEP653	EQUIPMENT	25CFCEP015	EQUIPMENT	
P25C032	3/4 IN	P25C032	NEW	25CBCEP653A	EQUIPMENT	25CFCEP032	EQUIPMENT	
P25C200	3/4 IN	PRI0200	NEW	25CBCEP653A	EQUIPMENT	RIOCP200	EQUIPMENT	
P25C653A	2 IN	P25C653	NEW	P25C653B	CONDUIT	25CBCEP653A	EQUIPMENT	
P25C653B	2 IN	P25C653	NEW	P25C653A	CONDUIT	25BBCEP816	EQUIPMENT	

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TAG	SIZE	CABLE TAG	STATUS	FROM TAG	FROM TYPE	TO TAG	TO TYPE	REMARKS
P27B001	3/4 IN	P27B001	NEW	27BBCP103	EQUIPMENT	27BFCP001	EQUIPMENT	
P27B068A	3/4 IN		NEW	27BBCP846	EQUIPMENT	27BFCP068	EQUIPMENT	
		P27B068A						
P27B068B	3/4 IN	P27B068	NEW	27BBCP103	EQUIPMENT	27BFCP068	EQUIPMENT	
P27C101	3/4 IN		NEW	27CBCP915A	EQUIPMENT	FCB27C101	EQUIPMENT	
		PFCB101						
P27C921B	1 IN	P27C921	NEW	FCB27C101	EQUIPMENT	27CBCP921	EQUIPMENT	
P27G012	3/4 IN		NEW	28DBCP072	EQUIPMENT	27GFCP012	EQUIPMENT	
		P27G012						
P27G012A	3/4 IN	P27G012A	NEW	28DDPN095	EQUIPMENT	27GFCP012	EQUIPMENT	
P28A088	3/4 IN		NEW	28AMTS088	EQUIPMENT	28ABCP088	EQUIPMENT	
		P28A088A						
P28C004	1 IN	P28C004	NEW	28CBCP101	EQUIPMENT	28CFCP004	EQUIPMENT	
P28C004A	1 IN		NEW	28CBCP021	EQUIPMENT	28CFCP004	EQUIPMENT	
		P28C004A						
P28C005	1 IN	P28C005	NEW	28CHMI005	EQUIPMENT	28CBCP021	EQUIPMENT	
P28C005A	1 IN		NEW	28CBCP101	EQUIPMENT	28CHMI005	EQUIPMENT	
		P28C005A						
P28C006	1 IN	P28C006	NEW	28CBCP021	EQUIPMENT	28CPAP006	EQUIPMENT	
P28C006A	1 IN		NEW	28CBCP101	EQUIPMENT	28CPAP006	EQUIPMENT	
		P28C006A						
P28C101A	2 IN	P28C101	NEW	22NBCP004	EQUIPMENT	PB-21A	EQUIPMENT	
P28C101B	2 IN		EXISTING	PB-21A	EQUIPMENT	PB-21	EQUIPMENT	
		P28C101						
P28C101C	2 IN	P28C101	NEW	PB-21	EQUIPMENT	BASEMENT ESC	EQUIPMENT	
P28C101D	2 IN		NEW	BASEMENT ESC	EQUIPMENT	28CBCP101	EQUIPMENT	
		P28C101						
P28C101E	2 IN	PFCB01C	NEW	28CBCP021	EQUIPMENT	FCB28C202	EQUIPMENT	
P28C101F	3/4 IN		NEW	28CBCP101	EQUIPMENT	FCB28C202	EQUIPMENT	
		PFCB01D						
P28D044	3/4 IN	P28D044	NEW	28DBCP072	EQUIPMENT	28DHMI044	EQUIPMENT	
P28D044A	3/4 IN		NEW	28DDPN095	EQUIPMENT	28DHMI044	EQUIPMENT	
		P28D044A						
P28D045	3/4 IN	P28D045	NEW	28DBCP072	EQUIPMENT	28DFCP045	EQUIPMENT	
P28D045A	3/4 IN		NEW	28DDPN095	EQUIPMENT	28DFCP045	EQUIPMENT	
		P28D045A						
P28D054	3/4 IN	PMV MV	NEW	28DBCP054	EQUIPMENT	MV BREAKER	EQUIPMENT	
P28D064	2 IN		NEW	28DMCC099	EQUIPMENT	28DATS064	EQUIPMENT	
		P28D064C						
P28D064A	2 IN	P28D064B	NEW	28DXFMR064	EQUIPMENT	28DDPN095	EQUIPMENT	

CONFORMED

TAG	SIZE	STATUS	CABLE TAG	FROM TAG	FROM TYPE	TO TAG	TO TYPE	REMARKS
P28D064B	2 IN	P28D064	NEW	PBDCE	EQUIPMENT	28DATS064	EQUIPMENT	
P28D064C	2 IN		NEW	28DATS064	EQUIPMENT	28DXFMR064	EQUIPMENT	
		P28D064A						
P28D064U	4 IN	P28D064	NEW	T-7113	TRAY	PBDCE	EQUIPMENT	
P28D071	3/4 IN		NEW	28DBCP034A	EQUIPMENT	28DHMI071	EQUIPMENT	
		P28D071						
P28D071A	3/4 IN	P28D071E	NEW	28DBCP071	EQUIPMENT	28DHMI071	EQUIPMENT	
P28D071B	2 IN		NEW	T-7113	TRAY	28DATS071	EQUIPMENT	
		P28D071A						
P28D071C	2 IN	P28D071D	NEW	28DMCC032	EQUIPMENT	28DATS071	EQUIPMENT	
P28D071D	2 IN		NEW	28DATS071	EQUIPMENT	28DXFMR071	EQUIPMENT	
		P28D071B						
P28D071E	4 IN	P28D071C	NEW	28DXFMR071	EQUIPMENT	28DBCP071	EQUIPMENT	
P28D073	3/4 IN		NEW	28DBCP034A	EQUIPMENT	28DFCP073	EQUIPMENT	
		P28D073						
P28D073A	3/4 IN	P28D073A	NEW	28DBCP071	EQUIPMENT	28DFCP073	EQUIPMENT	
P28D091	1 IN		NEW	28DBCP034A	EQUIPMENT	28DPAP091	EQUIPMENT	
		P28D091						
P28D091A	1 IN	P28D091A	NEW	28DBCP071	EQUIPMENT	28DPAP091	EQUIPMENT	
P28D102	3/4 IN		NEW	28DBCP072	EQUIPMENT	FCB28D102	EQUIPMENT	
		PFCB01I						
P28D102A	3/4 IN	PFCB01J	NEW	28DDPN095	EQUIPMENT	FCB28D102	EQUIPMENT	
P28D131	1 IN		NEW	28DBCH054	EQUIPMENT	28DSWGR131	EQUIPMENT	
		P28D131A						
P28D131A	3/4 IN	P28D131B	NEW	28DBCP054	EQUIPMENT	28DXFMR131	EQUIPMENT	
P28D132	1 IN		NEW	28DBCH055	EQUIPMENT	28DSWGR132	EQUIPMENT	
		P28D132A						
P28D132A	3/4 IN	P28D132B	NEW	28DBCP055	EQUIPMENT	28DXFMR132	EQUIPMENT	
P28D202	1 IN		NEW	28DBCP034A	EQUIPMENT	FCB28D202	EQUIPMENT	
		PFCB01B						
P28D202A	3/4 IN	PFCB02B	NEW	28DBCP071	EQUIPMENT	FCB28D202	EQUIPMENT	
P28G301	3/4 IN		NEW	28GBCP031A	EQUIPMENT	FCB28G301	EQUIPMENT	
		PFCB01M						
P28G301A	3/4 IN	P28A088	NEW	FCB28G301	EQUIPMENT	28ABCP088	EQUIPMENT	
P28H103	3/4 IN		NEW	25CBCP653A	EQUIPMENT	FCB28H103	EQUIPMENT	
		PFCB03A						
P28H103A	3/4 IN	PFCB03	NEW	25CBCP653	EQUIPMENT	FCB28H103	EQUIPMENT	
P28I002	1 IN		NEW	28IBCP247	EQUIPMENT	28IHMI002	EQUIPMENT	
		P28I002						
P28I002A	3/4 IN	P28I002A	NEW	28IBCP230	EQUIPMENT	28IHMI002	EQUIPMENT	

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TAG	SIZE	CABLE TAG	STATUS	FROM TAG	FROM TYPE	TO TAG	TO TYPE	REMARKS
S28L001B	1 IN	S28L001A S28L002 S28L003 S28L004	NEW	28LSWGR001	EQUIPMENT	FCB28L1-02	EQUIPMENT	
S28L002	1 IN	C28L002	NEW	28LXFMR002	EQUIPMENT	28LSWGR001	EQUIPMENT	
S28L003	1 IN	C28L003	NEW	28LXFMR003	EQUIPMENT	28LSWGR001	EQUIPMENT	
S28L006B	1 IN	S28L006A S28L007 S28L008 S28L009	NEW	28LSWGR006	EQUIPMENT	FCB28L1-02	EQUIPMENT	
S28L007	1 IN	C28L007	NEW	28LXFMR007	EQUIPMENT	28LSWGR006	EQUIPMENT	
S28L008	1 IN	C28L008	NEW	28LXFMR008	EQUIPMENT	28LSWGR006	EQUIPMENT	
S28L102	1 IN	SFCB-01	NEW	FCB28L1-01	EQUIPMENT	FCB28L1-02	EQUIPMENT	
S28L102A	1 IN	S28L000	NEW	FCB28L1-02	EQUIPMENT	28LANT000	EQUIPMENT	
S28L109	1 IN	S28L109	NEW	FCB28L1-02	EQUIPMENT	28LFCP109	EQUIPMENT	
S-SSTLF-	3/4 IN	SHMI-01	NEW	25JFTP010	EQUIPMENT	HMIP2-SSTLF-01	EQUIPMENT	
X1024	2 IN	C22K001 C22K003 C22K004 C22K004A C22K004B C22K101 C22K201 C22K300 C22K308	EXISTING	PB TFPSE-C	EQUIPMENT	X1112	CONDUIT	
X1112	2 IN	C22K001 C22K003 C22K004 C22K004A C22K004B C22K101 C22K201 C22K300 C22K308	EXISTING	X1024	CONDUIT	X1131	CONDUIT	
X1131	2 IN	C22K001 C22K003 C22K004 C22K004A C22K004B C22K101 C22K201 C22K300 C22K308	EXISTING	X1112	CONDUIT	C22K000	CONDUIT	

TAG	SIZE	STATUS	CABLE TAG	FROM TAG	FROM TYPE	TO TAG	TO TYPE	REMARKS
X1168	2 IN	C22N001 C22N003 C22N003A C22N004 C22N004A C22N004B C22N004C C22N101 C22N430 C22N434	EXISTING	X1186	CONDUIT	C28K003	CONDUIT	
X1186	2 IN	C22N001 C22N003 C22N003A C22N004 C22N004A C22N004B C22N004C C22N101 C22N430 C22N434	EXISTING	X1264	CONDUIT	X1168	CONDUIT	
X1240	2 IN	C22N001 C22N003 C22N003A C22N004 C22N004A C22N004B C22N004C C22N101 C22N430 C22N434	EXISTING	C22N003A	CONDUIT	X1362	CONDUIT	
X1264	2 IN	C22N001 C22N003 C22N003A C22N004 C22N004A C22N004B C22N004C C22N101 C22N430 C22N434	EXISTING	X1362	CONDUIT	X1186	CONDUIT	
X1362	2 IN	C22N001 C22N003 C22N003A C22N004 C22N004A C22N004B C22N004C C22N101 C22N430 C22N434	EXISTING	X1240	CONDUIT	X1264	CONDUIT	
X28H001	1 IN		NEW	25CFCP015	EQUIPMENT		EQUIPMENT	
X28H002	1 IN		NEW	25CFCP015	EQUIPMENT		EQUIPMENT	

CONFORMED

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Cable Tray Schedule

TAG	CABLES	STATUS	WIDTH/HT	REMARKS
T-7098	P22C057 P22D048 P22I680 P28D032 P28D032A P28D038	EXISTING	24 IN / IN	DC-B BASEMENT
T-7100	P28D064 P28D071A	EXISTING	24 IN / IN	KINNISON TUNNEL
T-7101	P28D064 P28D071A	EXISTING	24 IN / IN	HEADMAN TUNNEL
T-7111	C28D131J P28D064 P28D071A	EXISTING	24 IN / IN	DC-B BASEMENT
T-7113	P28D064 P28D071A	EXISTING	24 IN / IN	DC-B BASEMENT
TPC-6017	P22C083 P22D076 P28D064 P28D071A	EXISTING	24 IN / IN	SCOTT AT DAFTS
TPC-6022	P22C083 P22D076 P28D064 P28D071A	EXISTING	24 IN / IN	SCOTT FROM DAFT
TPC-6901	P22C083 P22D076 P28D064 P28D071A	EXISTING	24 IN / IN	SCOTT TUNNEL

TAG	CABLES	STATUS	WIDTH/HT	REMARKS
TPC-6902	P22D076 P28D064 P28D071A	EXISTING	24 IN / IN	WEST RAS TUNNEL
TPC-6904	P22C083	EXISTING	24 IN / IN	EAST RAS TUNNEL

CONFORMED

EXHIBIT 29

DESIGN-BUILDER'S DRAFT SCHEDULE

Layout: Master Schedule				TASK filter: All Activities				Data Date: 28-May-26				Page 3 of 4																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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EXHIBIT 30

MSP VIBRATION MONITORING SYSTEM MODERNIZATION
AT PLANT NO. 2 - SCOPE OF WORK

PROJECT TITLE: MSP Vibration Monitoring System Modernization at Plant No. 2

ENGINEER: Brian Terrell

PROJECT PROBLEM:

The Main Sewage Pumps (MSPs) at Plant No. 2 (P2) currently utilize the Emerson CSI 4500 system for vibration monitoring. In 2013, this system became obsolete, and Emerson discontinued the Sustain Program which provided service support to the system in December of 2019. Additionally, the data from the vibration monitoring system is inaccessible outside of SCADA, so options for running diagnostic software for condition monitoring purposes is not readily accessible.

PROPOSED SOLUTION:

Replace the obsolete Emerson vibration system with Bently Nevada (BN) Orbit 60 Monitoring System for all seven Main Sewage Pumps (MSP) No. 1 through No. 7. OC San's overall plan is to standardize vibration monitoring system upgrades with the Orbit 60 vibration racks through a sole source to Bently Nevada. Additionally, the BN system shall be configured, and fiber optic cables installed, to provide a data connection to System One and the associated PLC's. Coordinate all proposed shutdowns, work sequences, and approaches with OC San, for review and acceptance with Operations and Maintenance.

PROJECT ELEMENTS:

Project Element 1: Demolish the existing Emerson CSI 4500 Vibration Control Cabinets along with the associated pump and motor transducers (accelerometers/proximity probes), vibration switches, and cabling. Refer to the existing PIDs, Loop Drawings, and Schematic Diagrams for additional information.

Project Element 2: Provide and install new BN Orbit 60 vibration transducers for each of the 7 MSP's, new cables, conductors, and conduits, or reusing existing conduits where feasible:

- 4 Pump upper/lower bearings
- 4 Motor upper/lower bearings
- 1 Pump axial
- 1 Motor axial
- 1 Speed sensor for pump
- 1 Reverse rotation sensor for the Motor

Project Element 3: Provide and install new Vibration monitoring cabinets in NEMA 4X enclosures, while modifying existing to facilitate re-use and/or providing new conduits for the new cabinets. Provide a total of three cabinets with their own HMI display, and a total of 4 Orbit 60 racks:

- 4 Orbit 60 Vibration racks
- 3 Orbit 60 HMI Display panels (1 each per cabinet)
- Cabinet 1 (20DFCP021) for 1 Orbit 60 for 2 MSP's (E.g. Nos. 1, and 2)
- Cabinet 2 (20DFCP022) for 2 Orbit 60's for 3 MSP's (E.g. Nos. 3, 4, and 5)
- Cabinet 3 (20DFCP023) for 1 Orbit 60 for 2 MSP's (E.g. Nos. 6, and 7)

Project Element 4: Supply and install all network connections, conduit, switches, software, licenses, alarms, interlocks and accessories associated with the new vibration monitoring system and System One, while providing all testing, loop checks, configuration, programming, start-up, commissioning, and training.

- System One hardware and software installation, configuration, and license import, and commissioning support. Coordinate with Bently Nevada, as needed.
- Hi and Hi-Hi vibration relays (2 each per MSP)
- Ethernet connection (1 each per Orbit 60) between the vibration rack and the OCSAN ICS switch. (OCSAN will provide the IP addresses, subnet masks, and default gateways for each connection). Ethernet connection to the ICS network can not be shared with any other switch in the panel.

ATTACHMENT 3

SPECIAL CONDITIONS

**ATTACHMENT 3
SPECIAL CONDITIONS**

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ARTICLE 1 -DEFINITIONS (NOT USED)

ARTICLE 2 -CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE (NOT USED)

ARTICLE 3 -EXECUTION OF CONTRACT; INSURANCE, BONDS, INDEMNIFICATION (NOT USED)

ARTICLE 4 -CONTROL OF THE WORK

4.1 Staffing of Project

A. Design-Builder's Representative

1. Design-Builder hereby designates Chris Livingston, or his or her designee, to act as Design-Builder's Representative. Design-Builder's Representative shall have full authority to represent and act on behalf of Design-Builder for all purposes under the Contract. Design-Builder's Representative shall supervise and direct all Work on the Project, using his or her best skill and attention, and shall be responsible for all means, methods, techniques, sequences, and procedures and for the satisfactory coordination of all portions of the Work pursuant to the Contract. Design-Builder may designate new and/or different individuals to act as Design-Builder's Representative from time to time upon written notice to OC SAN and the express written consent of OC SAN, which such consent may be withheld by OC SAN. If, for whatever reason, Design-Builder's Representative is replaced and this section is not revised, or no such representative is designated, Design-Builder's Representative shall be read as applying to Design-Builder.

B. OC SAN's Representative

1. OC SAN hereby designates Omeed Pour or his or her designee, as the person to act as OC SAN's Representative. OC SAN's Representative shall be authorized to act as liaison between OC SAN and Design-Builder in the administration of the Contract and all Work on the Project. OC SAN's Representative shall have the power to act on behalf of OC SAN for all purposes under the Contract. OC SAN may designate new and/or different individuals to act as OC SAN's Representative from time to time upon written notice to Design-Builder. If, for whatever reason, OC SAN's Representative is replaced and this section is not revised, or no such representative is designated, OC SAN's Representative shall be read as applying to OC SAN.

C. Designated Key Personnel

1. Design-Builder has been selected to complete the Project in part because of the experience, expertise, training, education, and skill of key individuals. The Key Personnel shall perform the roles and responsibilities of the applicable title. The following individuals are Design-Builder's Key Personnel, none of whom can be replaced unless previously approved by OC SAN as provided herein:

Key Personnel Role	Key Personnel Name
Design-Builder Project Manger	Chris Livingston
Design-Builder Construction Manager	David Manire
Design Manager	Chris Kindle
Key Technical Leads	Keene Matsuda
Lead Estimator	Tony Ruiz
Design-Builder Health & Safety Manager	Brian Rowland
Design Builder Start-up and Commissioning Manager	Tom Klein
Design-Builder Quality Control/Quality Assurance Manager	Don Knapp (Construction) Frank Shadan (Design)
Design-Builder Project Controls Manager	Austin Liddicoat

D. Removal of Key Personnel

1. Design-Builder acknowledges the quality and qualifications of the Key Personnel were important and material factors in OC SAN's selection of Design-Builder for the Project. Design-Builder and OC SAN agree that the services of the Key Personnel are a material term of the Contract Documents. Design-Builder will not remove any of its Key Personnel from their respective role on the Project without the express prior written consent of OC SAN. If, for any reason except for death, disability, or voluntary departure by person from employment, an individual identified as Key Personnel ceases to perform the duties of a Key Personnel, OC SAN may terminate the Contract for material breach by Design-Builder.

E. Replacing Key Personnel

1. Any Key Personnel change shall be proposed to OC SAN with reasonable advance notice for its review and approval. Upon written notice by OC SAN to Design-Builder, Design-Builder shall replace Key Personnel within sixty (60) Days if Key Personnel fails to perform to the sole satisfaction of OC SAN. Any replacement of Key Personnel shall meet the qualifications in the RFP for the applicable role and OC SAN shall have the sole discretion to determine whether the Key Personnel replacement is qualified. If the Key Personnel replacement is not qualified, as determined in the sole discretion of OC SAN, Design-Builder shall propose a new Key Personnel replacement to OC SAN. Design-Builder shall be responsible for any and all costs related to replacing any Key Personnel, including any costs to acquaint themselves with the Project. Key Personnel for any Key Subcontractor are subject to all conditions in these Contract Documents.

4.2 Design-Builder's Safety Manager Requirement

- A. Design-Builder shall assign a Contractor Safety Manager (CSM) to the Project and Design-Builder and the CSM shall comply with the CSM requirements specified in the Contractor Safety Standards.

ARTICLE 5 - SCOPE OF WORK (NOT USED)

ARTICLE 6 - LEGAL RELATIONS AND RESPONSIBILITIES (NOT USED)

ARTICLE 7 - COST OF CONSTRUCTION WORK

7.1 Design-Builder's Fee

- A. Design-Builder's Fee. Design-Builder's Fee shall be fourteen percent (14%).

7.2 Construction Work Performed by Design-Builder

- A. Self-Perform Amount. Design-Builder shall perform Construction Work on the Project accounting to at least (for Phase 2, TBD) percent of the GMP, but not more than (for Phase 2, TBD) percent of the GMP.

7.3 Self-Performed Construction Work

- A. Independent Cost Estimate Percentage. Article 7.5(B)(4) shall be replaced with the following:

"If Design-Builder's pricing is within (for Phase 2, TBD) percent of OC SAN's independent cost estimate, Design-Builder will be allowed to perform the Self-Performed Construction Work."

7.4 Subcontracted Construction Work

- A. Non-Competitive Subcontracted Procurement. Article 7.7(C)(1) shall be replaced with the following:

"1. Design-Builder may procure Subcontractors without following the above competitive procurement procedures only if:

- a. The Phase 2 Price is less than (for Phase 2, TBD); or
- b. If the Phase 2 Price is equal to or greater than (for Phase 2, TBD), the Subcontracted Construction Work is equal to or less than one-half of one percent (0.5%) of the Phase 2 Price."

7.5 Shared Cost Savings

- A. If the final accounting of the GMP is less than the GMP as set forth in the GMP Amendment, including all adjustments to the GMP in accordance with the Contract Documents, the difference shall be considered "savings" and shall be shared as follows: fifty percent (50%) to Design-Builder and fifty percent (50%) to OC SAN.

7.6 Escalation

- A. During Phase 1, Design-Builder shall identify materials and/or equipment incorporated into the Project that may be subject to significant price escalation during the Project and provide ways, such as Early Purchase Items, to mitigate

such escalation. If Design-Builder identifies certain materials and/or equipment required for the Project that may be subject to significant price escalation during the Work, Design-Builder may request a material escalation clause in a GMP. OC SAN will evaluate whether or not a material escalation clause is appropriate for a GMP by evaluating such things as the Contract Time for the Work, whether the market for the materials and/or equipment is historically volatile and subject to sudden price increases, and OC SAN's tolerance for taking on escalation risk for the identified materials and/or equipment. If OC SAN decides, in its sole discretion, that a material price escalation provision is appropriate for the Project, OC SAN and Design-Builder will negotiate such a provision as part of the GMP. The material price escalation provision will include certain conditions that Design-Builder would have to demonstrate to receive escalation costs from OC SAN.

ARTICLE 8 -PROSECUTION OF THE WORK

8.1 Point of Delivery

- A. The goods to be furnished by Design-Builder under the Contract shall be delivered to OC SAN at the following location: Plant No. 2, located at 22212 Brookhurst Street, Huntington Beach, CA 92646.

ARTICLE 9 -PROJECT SITE

9.1 Design-Builder’s Storage and Staging Area

- A. The following list shows the site available for Design-Builder’s storage, mobilization area, or staging area.

SITE	AVAILABLE DATE
TBD	NTP

ARTICLE 10 -CONTRACT TIME; SCHEDULE

10.1 Liquidated Damages

- A. In accordance with Section 10.3 of the General Conditions, the Parties agree that Design-Builder will pay to OC SAN the sum of \$1,600 per day, as Liquidated Damages, and not as a penalty, for each and every calendar day beyond the Final Completion Date that Substantial Completion has not been achieved for the Project or update of the CPM Schedule as required by the General Requirements is so delayed.
- B. In accordance with Section 10.3 of the General Conditions, the Parties agree that Design-Builder will pay to OC SAN the sum of \$1,000 per day, as Liquidated Damages, and not as a penalty, for each and every calendar day beyond the Milestone Date that Final Completion has not been achieved for the Project. Liquidated damages due to delays in achieving a Milestone Date will not be

credited toward Liquidated Damages due to delays in achieving subsequent milestones, deadlines, or the Final Completion Date.

10.2 Delays Caused by Inclement Weather

- A. For purposes of granting time extensions pursuant to Section 10.2 of the General Conditions resulting from rain more severe than normal which was not foreseeable, Design-Builder and OC SAN agree that the impact of normal rainfall for which Design-Builder is not entitled to a time extension is defined by the number of expected work days of delay (based on a five (5) day work week) caused by normal rainfall. The Contract Time established in the GMP will include inclement weather days when Design-Builder will be unable to work. In scheduling the Work, Design-Builder shall account for the above-referenced number of work days for which the effects of normal rainfall are expected to prevent Work.

ARTICLE 11 - CHANGE IN CONTRACT PRICE, TIME

11.1 Partnering

- A. Dispute Resolution Ladder. At the discretion of OC SAN, the Parties will partner to create a dispute resolution ladder to facilitate open communication and close cooperation that involves both Design-Builder and OC SAN personnel working together for the purpose of establishing a mutually beneficial, proactive, cooperative environment within which to achieve Project objectives, resolve issues, and implement actions as required. The dispute resolution ladder will provide the authority for both Design-Builder and OC SAN personnel at all levels with parameters and procedures for escalating disputes.
- B. Formal Partnering. Design-Builder and OC SAN shall participate in a partnering process among all members of the Project team. The partnering process will assist OC SAN and Design-Builder to develop a collaborative environment so that communication, coordination, and cooperation are the standard, and to encourage resolution of conflicts at the lowest responsible management level. The objectives of the partnering process are to (1) identify potential problem areas, issues and differences of opinion early, (2) develop and implement procedures for resolving them in order to prevent them from becoming claims, (3) achieve effective and efficient performance and completion of the Work in accordance with the Contract Documents, and (4) create mutual trust and respect for each Party's respective roles and interests in the Project while recognizing the respective risks inherent in those roles. The partnering process shall take place during the entire length of the Project. A third-party facilitator shall be chosen by OC SAN and Design-Builder that is mutually agreeable to the Parties. Design-Builder shall make all arrangements to hire the facilitator and provide a suitable meeting location for the partnering workshops.

ARTICLE 12 - MEASUREMENT; PAYMENT (NOT USED)

ARTICLE 13 - TERMINATION; SUSPENSION (NOT USED)

ARTICLE 14 - MISCELLANEOUS CONTRACT PROVISIONS (NOT USED)

ATTACHMENT 4

DESIGN-BUILDER'S RFP PRICING

PRICE PROPOSAL FORMS

Price Proposal Table 1

The Proposer shall complete the following summary table to propose a price to provide Phase 1 Engineering and Preconstruction Services in accordance with the Contract Documents, including, but not limited to, Contract General Conditions, Phase 1 Scope of Work, and all applicable requirements of the Contract.

Task	Total Costs (including Subcontractors)
Task 1 Project Management	
1.1 Project Management and Administration	\$39,400.00
1.2 Project Management Documents	\$417,900.00
1.2.1 PMP	\$67,200.00
1.2.2 HASP	\$26,800.00
1.2.3 QMP	\$29,600.00
1.2.4 Document Management Plan	\$14,000.00
1.2.5 Project Schedule	\$121,700.00
1.2.6 Risk Management	\$65,600.00
1.2.7 Monthly Reporting and Meetings	\$93,000.00
1.3 Meetings	\$253,500.00
1.3.1 Design Standards Custodian Specifications Mtg.	\$1,000.00
1.3.2 Preliminary Safety Review Plan Workshop	\$3,700.00
1.3.3 Risk Registration Workshop	\$3,700.00
1.3.4 Kickoff Meeting	\$10,600.00
1.3.5 Biweekly Progress Meeting	\$107,000.00
1.3.6 Partnering Meetings	\$87,200.00

REQUEST FOR PROPOSALS (1-STEP)

PROJECT NO. P2-141

Revision 040825

HEADWORKS ELECTRICAL DISTRIBUTION IMPROVEMENTS AT PLANT NO. 2

Task	Total Costs (including Subcontractors)
1.3.7 Maintainability Workshops	\$39,600.00
1.3.8 Bluebeam Submittal Review Training	\$700.00
Task 1 Subtotal	\$710,800.00
Task 2 Field Investigations	
2.1 Geotechnical Investigation	\$224,600.00
2.1.1 Field Investigations	\$90,800.00
2.1.2 Lab Testing, Geotechnical & Groundwater Analyses	\$22,900.00
2.1.3 Draft Geotechnical Data Report	\$37,000.00
2.1.4 Final Geotechnical Data Report	\$16,100.00
2.1.5 Meetings and Design Support	\$57,800.00
2.2 Utility Investigation (including Potholing)	\$96,600.00
2.3 Topographical Survey	\$123,100.00
2.4 Electrical Investigation	\$107,700.00
2.4.1 Field Investigations	\$89,300.00
2.4.2 Cable Conduit Condition Assessment Report	\$18,400.00
Task 2 Subtotal	\$552,000.00
Task 3 Design Development	
3.1 Preliminary Design Report	\$597,600.00
3.1.1 PDR Drawings	\$327,600.00
3.1.2 Draft PDR Document (incl. Calculations)	\$164,300.00
3.1.3 Final PDR Document (incl. Calculations)	\$67,300.00
3.1.4 PDR Meetings	\$38,400.00
3.2 Procurement Plan	\$25,400.00
3.3 60% Design Development	\$953,200.00
3.3.1 60% Drawings	\$696,900.00
3.3.2 60% Specifications	\$181,400.00
3.3.3 60% Design Meetings	\$74,900.00

Task	Total Costs (including Subcontractors)
3.4 GMP Design Deliverable	\$330,900.00
3.4.1 GMP Drawings	\$214,200.00
3.4.2 GMP Specifications	\$89,900.00
3.4.3 GMP Meetings	\$26,800.00
3.5 100% Issue for Construction	\$451,200.00
3.5.1 100% Drawings	\$195,800.00
3.5.2 100% Specifications	\$83,200.00
3.5.3 100% Design Meetings	\$25,200.00
3.5.4 IFC Drawings	\$99,100.00
3.5.5 IFC Specifications	\$47,900.00
Task 3 Subtotal	\$2,358,300.00
Task 4 NOT USED	
Task 4 Subtotal	\$0.00
Task 5 Pre-Construction Services and GMP Development	
5.1 Cost Modeling and Estimates	\$109,300.00
5.2 Scheduling and Construction Phasing	\$37,700.00
5.3 Guaranteed Maximum Price Submittal and Phase 2 Amendment	\$134,100.00
5.3.1 GMP Proposals	\$92,600.00
5.3.2 GMP Meetings/Workshops	\$41,500.00
Task 5 Subtotal	\$281,100.00
Additional Services, if applicable	
Task 6 NOT USED	\$0.00
Task 7 NOT USED	\$0.00
Additional Services Subtotal	
GRAND TOTAL	\$3,902,200.00

Price Proposal Table 2

The Proposer shall complete the following summary table proposing Phase 2 – Construction Phase percentage for Design-Builder Fee . Proposer shall provide percentage with two decimal places (i.e., 0.00%).

**Phase 2 Construction Phase Percentage
Price Proposal Summary Table**

Direct Costs	Percentage of Direct Construction Cost
Design-Builder Fee (Provide Percentage) ⁽¹⁾	14.00%

⁽¹⁾ Design-Builder's Fee should include Design-Builder's home office overhead, profit, and other costs and expenses not specifically included in the Cost of Work and will be applied to the Cost of Work, as further described in Article 7 of the General Conditions.

ATTACHMENT 5 PERFORMANCE BOND

(For Phase 2 - TBD)

**ATTACHMENT 5
PERFORMANCE BOND**

KNOW ALL PERSONS BY THESE PRESENTS:

THAT WHEREAS, Orange County Sanitation District ("OC SAN") has awarded to _____, ("Design-Builder") an agreement for _____ (hereinafter referred to as the "Project").

WHEREAS, the work to be performed by the Design-Builder is more particularly set forth in the Contract Documents for the Project dated _____, (hereinafter referred to as "Contract Documents"), the terms and conditions of which are expressly incorporated herein by reference; and

WHEREAS, the Design-Builder is required by said Contract Documents to perform the terms thereof and to furnish a bond for the faithful performance of said Contract Documents.

NOW, THEREFORE, we, _____, the undersigned Design-Builder and _____ as Surety, a corporation organized and duly authorized to transact business under the laws of the State of California, are held and firmly bound unto OC SAN in the sum of _____ dollars, (\$ _____), said sum being not less than one hundred percent (100%) of the total amount of the Contract, for which amount well and truly to be made, we bind ourselves, our heirs, executors and administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that, if the Design-Builder, his or its heirs, executors, administrators, successors, or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions, and agreements in the Contract Documents and any alteration thereof made as therein provided, on its part, to be kept and performed at the time and in the manner therein specified, and in all respects according to their intent and meaning; and shall faithfully fulfill all obligations including the one (1) year guarantee of all materials and workmanship; and shall indemnify and save harmless OC SAN, its officers and agents, as stipulated in said Contract Documents, then this obligation shall become null and void; otherwise it shall be and remain in full force and effect.

As a part of the obligation secured hereby and in addition to the face amount specified therefore, there shall be included costs and reasonable expenses and fees including reasonable attorney's fees, incurred by OC SAN in enforcing such obligation.

The obligations of Surety hereunder shall continue so long as any obligation of Design-Builder remains. Nothing herein shall limit OC SAN's rights or the Design-Builder or Surety's obligations under the Contract, law or equity, including, but not limited to, California Code of Civil Procedure section 337.15.

Whenever Design-Builder shall be, and is declared by OC SAN to be, in default under the Contract Documents, the Surety shall remedy the default pursuant to the Contract Documents, or shall promptly, at OC SAN's option:

- (1) Take over and complete the Project in accordance with all terms and conditions in the Contract Documents;
- (2) Obtain a Bid or Bids for completing the Project in accordance with all terms and conditions in the Contract Documents and arrange for a Contract between such Bidder, the Surety, and OC SAN, and make available as work progresses sufficient funds to pay the cost of completion of the Project, less the balance of the Contract price, including other costs and damages for which Surety may be liable. The term "balance of the Contract price" as used in this paragraph shall mean the total amount payable to Design-Builder by OC SAN under the Contract and any modification thereto, less any amount previously paid by OC SAN to the Design-Builder and any other set offs pursuant to the Contract Documents; or
- (3) Permit OC SAN to complete the Project in any manner consistent with California law and make available as work progresses sufficient funds to pay the cost of completion of the Project, less the balance of the Contract price, including other costs and damages for which Surety may be liable. The term "balance of the Contract price" as used in this paragraph shall mean the total amount payable to Design-Builder by OC SAN under the Contract and any modification thereto, less any amount previously paid by OC SAN to the Design-Builder and any other set offs pursuant to the Contract Documents.

Surety expressly agrees that OC SAN may reject any contractor or subcontractor which may be proposed by Surety in fulfillment of its obligations in the event of default by the Design-Builder.

Surety shall not utilize Design-Builder in completing the Project nor shall Surety accept a Bid from Design-Builder for completion of the Project if OC SAN, when declaring the Design-Builder in default, notifies Surety of OC SAN's objection to Design-Builder's further participation in the completion of the Project.

The Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration, or addition to the terms of the Contract Documents or to the Project to be performed thereunder shall in any way affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration, or addition to the terms of the Contract Documents or to the Project.

IN WITNESS WHEREOF, we have hereunto set our hands and seals this _____ day
of _____, 20__.

Design-Builder

By: _____

Surety

By: _____
Attorney-in-Fact

The rate of premium on this bond is _____ per thousand. The total amount of premium
charges, \$_____.

(The above must be filled in by corporate attorney.)

THIS IS A REQUIRED FORM

Any claims under this bond may be addressed to:

(Name and Address of Surety) _____

(Name and Address of Agent or
Representative for service of
process in California, if different
from above)

(Telephone number of Surety and
Agent or Representative for service
of process in California)

**NOTE: A copy of the Power-of-Attorney to local representatives of the bonding company
must be attached hereto.**

Notary Acknowledgment

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA

COUNTY OF _____

On _____, 20____, before me, _____, Notary Public, personally

appeared _____, who proved to me on the basis of satisfactory

evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature of Notary Public _____

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document

and could prevent fraudulent removal and reattachment of this form to another document.

CAPACITY CLAIMED BY SIGNER

DESCRIPTION OF ATTACHED DOCUMENT

- ☐ Individual
☐ Corporate Officer

Title(s)		Title or Type of Document
☐ Partner(s)	☐ Limited ☐ General	Number of Pages
☐ Attorney-In-Fact		Date of Document
☐ Trustee(s)		
☐ Guardian/Conservator		
☐ Other:		
Signer is representing: Name Of Person(s) Or Entity(ies)		
_____ _____		Signer(s) Other Than Named Above

**ATTACHMENT 6
PAYMENT BOND
(LABOR AND MATERIALS)
(For Phase 2 – TBD)**

**ATTACHMENT 6
PAYMENT BOND (LABOR AND MATERIALS)**

KNOW ALL MEN BY THESE PRESENTS:

THAT WHEREAS, Orange County Sanitation District ("OC SAN"), has awarded to _____, hereinafter designated as the "Principal," a contract ("Contract") for the work described as follows: _____ ("Project"); and

WHEREAS, said Principal is required to furnish a bond in connection with said Contract; providing that if said Principal or any of its Subcontractors shall fail to pay for any materials, provisions, provender, equipment, or other supplies used in, upon, for, or about the performance of the work contracted to be done, or for any work or labor done thereon of any kind, or for amounts due under the Unemployment Insurance Code, or for any amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of said Principal and its Subcontractors with respect to such work or labor the Surety on this bond will pay for the same to the extent hereinafter set forth.

NOW THEREFORE, we, the Principal and _____ as Surety,
are held and firmly bound unto OC SAN in the penal sum of _____ dollars

(\$_____) lawful money of the United States of America, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that if said Principal, his or its subcontractors, heirs, executors, administrators, successors, or assigns, shall fail to pay any of the persons named in Section 9100 of the Civil Code, fail to pay for any materials, provisions, or other supplies, used in, upon, for, or about the performance of the work contracted to be done, or for any work or labor thereon of any kind, or amounts due under the Unemployment Insurance Code with respect to work or labor performed under the Contract, or for any amounts required to be deducted, withheld, and paid over to the Employment Development Department or Franchise Tax Board from the wages of employees of the Principal and his subcontractors pursuant to Section 18663 of the Revenue and Taxation Code, with respect to such work and labor the Surety or Sureties will pay for the same, in an amount not exceeding the sum herein above specified, and also, in case suit is brought upon this bond, all litigation expenses incurred by OC SAN in such suit, including reasonable attorneys' fees, court costs, expert witness fees, and investigation expenses.

This bond shall inure to the benefit of any of the persons named in Section 9100 of the Civil Code so as to give a right of action to such persons or their assigns in any suit brought upon this bond.

It is further stipulated and agreed that the Surety on this bond shall not be exonerated or released from the obligation of this bond by any change, extension of time for performance, addition, alteration or modification in, to, or of any contract, plans, specifications, or agreement pertaining or relating to any scheme or work of improvement herein above described, or pertaining or relating to the furnishing of labor, materials, or equipment therefore, nor by any change or modification of any terms of payment or extension of the time for any payment pertaining or relating to any scheme or work of improvement herein above described, nor by any rescission or

attempted rescission or attempted rescission of the contract, agreement, or bond, nor by any conditions precedent or subsequent in the bond attempting to limit the right of recovery of claimants otherwise entitled to recover under any such Contract or agreement or under the bond, nor by any fraud practiced by any person other than the claimant seeking to recover on the bond and that this bond be construed most strongly against the Surety and in favor of all persons for whose benefit such bond is given, and under no circumstances shall Surety be released from liability to those for whose benefit such bond has been given, by reason of any breach of Contract between the owner or OC SAN and original design-builder or on the part of any obligee named in such bond, but the sole conditions of recovery shall be that claimant is a person described in Section 9100 of the Civil Code, and has not been paid the full amount of his claim and that Surety does hereby waive notice of any such change, extension of time, addition, alteration, or modification herein mentioned and the provisions of Sections 2819 and 2845 of the California Civil Code.

IN WITNESS WHEREOF, two (2) identical counterparts of this instrument, each of which shall for all purposes be deemed an original thereof, have been duly executed by the Principal and Surety above named, on the _____ day of _____ 20____ the name and

corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative pursuant to authority of its governing body.

(Corporate Seal of Principal, if corporation)

Design-Builder

By: _____

(Seal of Surety)

Surety

By: _____
Attorney-in-Fact

(Attached Attorney-In-Fact Certificate and Required Acknowledgements)

NOTE: A copy of the Power-of-Attorney to local representatives of the bonding company must be attached hereto.

Notary Acknowledgment

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA

COUNTY OF _____

On _____, 20____, before me, _____, Notary Public, personally

appeared _____, who proved to me on the basis of satisfactory

evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature of Notary Public _____

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document

and could prevent fraudulent removal and reattachment of this form to another document.

CAPACITY CLAIMED BY SIGNER

DESCRIPTION OF ATTACHED DOCUMENT

- ☐ Individual
☐ Corporate Officer

Title(s)		Title or Type of Document
☐ Partner(s)	☐ Limited ☐ General	Number of Pages
☐ Attorney-In-Fact ☐ Trustee(s) ☐ Guardian/Conservator ☐ Other:		Date of Document
Signer is representing: Name Of Person(s) Or Entity(ies) _____ _____		Signer(s) Other Than Named Above

ATTACHMENT 7

GENERAL REQUIREMENTS

GENERAL REQUIREMENTS

GENERAL REQUIREMENTS

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GENERAL

GR-1 ABBREVIATIONS

The following abbreviations are used in the Specifications and other Construction Documents. The words represented by the abbreviations are as follows:

AA	Aluminum Association
AABC	Associated Air Balance Council
AAMA	American Architectural Manufacturers Association
AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
ACGIH	American Conference of Governmental Industrial Hygienists
AEIC	Association of Edison Illuminating Companies
AF&PA	American Forest & Paper Association
ABMA	American Bearing Manufacturers Association
AGA	American Gas Association
AGMA	American Gear Manufacturers Association
AI	Asphalt Institute
AIHA	American Industrial Hygiene Association
AIA	American Institute of Architects
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AITC	American Institute of Timber Construction
ALSC	American Lumber Standard Committee
AMCA	Air Moving and Conditioning Association
ANLA	American Nursery & Landscape Association
ANSI	American National Standards Institute
APA	APA - The Engineered Wood Association
API	American Petroleum Institute
APWA	American Public Works Association
AREMA	American Railway Engineering and Maintenance-of-Way Association
ASCE	American Society of Civil Engineers
ASHRAE	American Society of Heating, Refrigerating, and Air Conditioning Engineers
ASME	American Society of Mechanical Engineers
ASSE	American Society of Safety Engineers
ASTM	ASTM International
AWI	Architectural Woodwork Institute
AWC	American Wood Council
AWPA	American Wood Protection Association
AWS	American Welding Society
AWWA	American Water Works Association
BHMA	Builders Hardware Manufacturers Association
BICSI	Building Industry Consulting Service International
BLS	U.S. Bureau of Labor Statistics
Caltrans	California Department of Transportation
Cal/OSHA	CA occupational safety and health regulations administered by DOSH
CARB	California Air Resources Board
CASQA	California Stormwater Quality Association
CCC	California Coastal Commission
CDFG	CA Dept. of Fish and Game

CEQA	California Environmental Quality Act
CHSP	Chino Hills State Park
CISCA	Ceilings & Interior Systems Construction Association
CISPI	Cast Iron Soil Pipe Institute
CMAA	Crane Manufacturers Association of America
CPUC	California Public Utilities Commission
CRA	California Redwood Association
CRSI	Concrete Reinforcing Steel Institute
CSA	Canadian Standards Association
CSI	Construction Specifications Institute
CTIOA	Ceramic Tile Institute of America
DHI	Door and Hardware Institute
DIPRA	Ductile Iron Pipe Research Association
DOGGR	CA Dept. of Conservation, Div. of Oil, Gas, and Geothermal Resources
DOSH	CA Dept. of Industrial Relations, Div. of Occupational Safety and Health
DOT	U.S. Department of Transportation
EIA	Electronic Industries Alliance
EPA	U.S. Environmental Protection Agency
ETL	Intertek ETL SEMKO
FAA	Federal Aviation Administration
FCCCHR	Foundation of Cross-Connection Control and Hydraulic Research, USC
FCI	Fluid Controls Institute
FM	FM Approvals
GA	Gypsum Association
GANA	Glass Association of North America
HI	Hydraulic Institute
IAPMO	International Association of Plumbing and Mechanical Officials
ICBO	International Conference of Building Officials
ICC	International Code Council
ICEA	Insulated Cable Engineers Association
IEEE	Institute of Electrical and Electronics Engineers
IESNA	Illuminating Engineering Society of North America
IGMA	Insulating Glass Manufacturers Alliance
ITI	Information Technology Industry Council
ISA	Instrument Society of America
ISEA	International Safety Equipment Association
MCCA	Measurement, Control & Automation Association
MHI	Material Handling Institute
MSS	Manufacturers Standardization Society of The Valve and Fittings Industry
NASSCO	National Association of Sewer Service Companies
NAAMM	National Association of Architectural Metal Manufacturers
NACE	NACE International
NAICS	North American Industry Classification System
NAPF	National Association of Pipe Fabricators
NCPI	National Clay Pipe Institute
NEIS	National Electrical Installation Standards
NEBB	National Environmental Balancing Bureau
NEC	National Electrical Code
NECA	National Electrical Contractors Association

NEMA	National Electrical Manufacturers Association
NETA	International Electrical Testing Association
NFPA	National Fire Protection Association
NHLA	National Hardwood Lumber Association
NIST	National Institute of Standards and Technology
NOAA	National Oceanic and Atmospheric Administration (U.S. Dept. of Commerce)
NPDES	National Pollutant Discharge Elimination System
NRCA	National Roofing Contractors Association
NSF	NSF International
OCIP	OC SAN Owner Controlled Insurance Program
OCHCA	Orange County Health Care Agency
OC SAN	Orange County Sanitation District, California
OCFA	Orange County Fire Authority, California
OCTA	Orange County Transportation Authority, California
OSHA	U.S. Occupational Safety and Health Administration
PCA	Portland Cement Association
PCI	Precast / Prestressed Concrete Institute
PPI	Plastics Pipe Institute
RCRA	Resource Conservation and Recovery Act
RCSC	Research Council on Structural Connections
RIS	Redwood Inspection Service, a division of CRA
RWQCB	Regional Water Quality Control Board
SAE	SAE International
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison
SGCC	Safety Glazing Certification Council
SLC	CA, State Lands Commission
SMACNA	Sheet Metal and Air Conditioning Contractors' National Association
SPIB	Southern Pine Inspection Bureau
SSPC	Society for Protective Coatings
SPPWC	Standard Plans for Public Works Construction
SSPWC	Standard Specifications for Public Works Construction
SWPA	Submersible Wastewater Pumps Association
SWRCB	State Water Resources Control Board
TIA	Telecommunications Industry Association
TCNA	Tile Council of North America
ULC	Underwriters Laboratories of Canada
UL	Underwriters Laboratories
USA	Underground Service Alert of Southern California
USACE	U.S. Army Corps of Engineers
USCC	US Composting Council
USDC	U. S. Department of Commerce
U.S. EPA	U.S. Environmental Protection Agency
U.S. FWS	U.S. Fish and Wildlife Service
USGS	United States Geological Survey
WATCH	Work Area Traffic Control Handbook
WCLIB	West Coast Lumber Inspection Bureau
WDMA	Window and Door Manufacturers Association
WI	Woodwork Institute
WRI	Wire Reinforcement Institute

WWCCA..... Western Wall & Ceiling Contractors Association
WWPA.....Western Wood Products Association

GR-2 REFERENCES

The Construction Documents contain references to various standards, standard specifications, codes, practices and requirements for products, execution, tests, and inspections. These reference standards are published and issued by the agencies, associations, organizations, and societies listed in this section or identified in individual product specification sections. Such references are incorporated into and made a part of the Construction Documents to the extent applicable to the Work.

DESIGN-BUILDER shall obtain and maintain at the worksite copies of reference standards identified in the Construction Documents to properly execute the Work.

At a minimum, the following shall be readily available at the site, as applicable to the Work:

- Local and state building codes.
- Safety Codes: State of California Industrial Safety Codes and regulations and Occupational Safety and Health Act (OSHA) regulations.
- Research Reports: ICC Evaluation Service (ICC-ES) Reports, ICBO Evaluation Service (ICBO-ES) Research Reports and CABO National Evaluation Service Reports (NER), for products not in conformance to prescribed requirements stated in building codes.
- Product Listings: Approval documentation, indicating approval of authorities having jurisdiction for use of product within the applicable jurisdiction.
- “Greenbook”, Standard Specifications for Public Works Construction and the Supplements, the latest editions at the time of the Bid.

CONSTRUCTION DOCUMENTS

GR-3 ISSUANCE OF PLANS AND SPECIFICATIONS

The DESIGN-BUILDER shall furnish to OC SAN’S REPRESENTATIVE, free of charge, up to ten (10) sets each of the Construction Documents for OC SAN’s use in monitoring the Work. The DESIGN-BUILDER shall keep a copy of the Construction Documents at the worksite and shall, at all times, provide the OC SAN’S REPRESENTATIVE with access thereto. Any additional or updated plans or specifications developed by the DESIGN BUILDER in the course of the Work shall also be considered as Construction Documents and shall be kept at the worksite for reference with copies furnished promptly to OC SAN’S REPRESENTATIVE.

GR-4 DIVISIONS OF SPECIFICATIONS

The Technical Specifications are a part of the Specifications, and consist of Divisions 01 through 17, as defined in the General Conditions. The format of the Specification sections is similar to that of the Construction Specifications Institute (CSI) specification sections.

The organization of the Specifications into divisions, sections, parts, and paragraphs shall not control or limit the DESIGN-BUILDER in dividing Work among Subcontractors of any tier, except where contractor licensure is required. The DESIGN-BUILDER shall be solely responsible for all subcontract arrangements of Work regardless of the organization of the Specifications.

DESIGN BUILDER'S RESPONSIBILITIES

GR-5 GENERAL

Until the Final Completion of the Work by OC SAN, the DESIGN-BUILDER shall have full legal responsibility for the charge, care, and protection for the Work, the worksite, and of the materials to be used therein, including materials for which the DESIGN-BUILDER has received full or partial payment and/or materials which have been furnished by OC SAN. The DESIGN-BUILDER shall bear the risk of injury, loss, or damage to any part thereof by the action of the natural elements or from any other cause, whether arising from the execution or from the non-execution of the Work. The DESIGN BUILDER shall rebuild, repair, restore, and be responsible for all injuries, losses, or damages to any portion of the Work or to the materials occasioned by any cause through the end of the warranty period, and shall bear the expense thereof.

Where necessary to protect the Work or materials from damage, the DESIGN-BUILDER shall (at the risk and expense of the DESIGN-BUILDER) provide suitable drainage and erect such temporary structures as are necessary to protect the Work or materials from damage. The suspension of the Work or the granting of an extension of time for any cause shall not relieve the DESIGN-BUILDER of responsibility for the time and materials as herein specified.

The DESIGN-BUILDER shall maintain all equipment in accordance with the manufacturer's recommendations. Upon Beneficial Occupancy or Final Completion, the DESIGN-BUILDER will be relieved of the duty of maintaining (unless a longer maintenance requirement is specified) and responsibility for injury or damage to said completed portions of the Work resulting from use by or from the action of the elements or from any other cause, but not from injury or damage resulting from the DESIGN-BUILDER's own operations or negligence.

Nothing in this section providing for relief from maintenance and responsibility shall be construed as relieving the DESIGN-BUILDER of full responsibility for correcting defective Work or materials found at any time before the end of the warranty period and/or special extended warranty.

GR-6 ENVIRONMENTAL CONTROL

A. General

The DESIGN-BUILDER shall comply with all federal, state, and local environmental regulations and the environmental requirements set forth in the Specifications, whichever is most stringent. Additional requirements may be found in other sections.

The DESIGN-BUILDER shall be responsible for costs incurred as a result of Project delays due to DESIGN-BUILDER violations of federal, state, and local environmental regulatory requirements. The DESIGN-BUILDER shall be solely responsible for any Notices of Violations, penalties, or actions by SCAQMD, RWQCB, CARB, EPA, or other agency alleging violation of federal, state, and local air quality or other regulatory requirements issued with respect to any activity of the DESIGN-BUILDER, whether the same is issued to the DESIGN-BUILDER, Subcontractor, or OC SAN.

B. Noise Control

Work hours are as stated in the General Requirements under the section entitled "Length of Workday and Workweek / Prevailing Wage." Changes to work hours may require the use of noise control measures.

All equipment used during construction shall be muffled and maintained in good operating condition. All internal combustion engine driven equipment shall be fitted with intake and exhaust mufflers that are in good condition.

Back up bells on equipment may only be operated between 7:00 a.m. and 5:00 p.m. Air compressors and diesel fueled engine operation will not be permitted between 5:30 p.m. and 7:00 a.m. Unless otherwise directed by the OC SAN'S REPRESENTATIVE, temporary generators will be permitted to operate between 7:00 a.m. and 5:00 p.m. providing that the generator noise level shall not exceed 85 dB at 3 feet. For projects not located on OC SAN property, noise control shall comply with the authority having jurisdiction where the Work is being performed.

C. Environmental Compliance

The DESIGN-BUILDER shall comply with all federal, state, and local environmental laws, regulations, and policies which apply to the DESIGN-BUILDER, its Subcontractors, and the Project, including, but not limited to, all applicable federal, state, and local air pollution control laws and regulations.

Air Quality Statement of Compliance

1. The DESIGN-BUILDER shall confirm that all Work by the DESIGN-BUILDER or its Subcontractors at the worksite complies with all applicable air quality regulatory requirements by submitting to OC SAN by February 1st of each year or when requested by the OC SAN'S REPRESENTATIVE a company letterhead letter signed by the DESIGN-BUILDER's responsible officer containing the following certification statement:

"I certify that all equipment owned or operated by {name of company} or its subcontractors, and all work performed by {name of company} or its subcontractors at the OC SAN facilities has been in compliance with the air quality rules, regulations, permit conditions, and laws of the SCAQMD, CARB, and EPA with the exception of any non-compliance events for which {name of company} has taken immediate actions to regain compliance and has provided the necessary reports, as required by the abovementioned regulatory organizations. I,

the undersigned, have personally examined the necessary relevant information and have undertaken positive efforts to assure the above statement is true.”

2. Some regulations which may be pertinent are:

a. For uses of Coatings, Solvents, and Adhesives

- (1) SCAQMD Rule 109 – Recordkeeping for Volatile Organic Compound Emissions
- (2) SCAQMD Rule 442 – Usage of Solvents
- (3) SCAQMD Rule 481 – Spray Coating Operations
- (4) SCAQMD Rule 1107 – Coating of Metal Parts and Products
- (5) SCAQMD Rule 1113 – Architectural Coatings
- (6) SCAQMD Rule 1122 – Solvent Degreasers
- (7) SCAQMD Rule 1143 - Consumer Paint Thinners and Multi-Purpose Solvents
- (8) SCAQMD 1162 - Polyester Resin Operations
- (9) SCAQMD Rule 1168 – Adhesive and Sealant Applications
- (10) SCAQMD Rule 1171 – Solvent Cleaning Operations
- (11) Title 17, California Code of Regulations, Sections 94520-94528 – Reducing Volatile Organic Compound Emissions from Aerosol Coating Products

b. For General Construction

- (1) SCAQMD Rule 203 – Permit to Operate
- (2) SCAQMD Rule 206 – Posting of Permit to Operate
- (3) SCAQMD Rule 301 – Permitting and Associated Fees
- (4) SCAQMD Rule 401 – Visible Emissions
- (5) SCAQMD Rule 402 – Nuisance
- (6) SCAQMD Rule 403 – Fugitive Dust
- (7) SCAQMD Rule 431.2 – Sulfur Content of Liquid Fuels
- (8) SCAQMD Rule 461 – Gasoline Transfer and Dispensing
- (9) SCAQMD Rule 461.1 - Gasoline Transfer and Dispensing for Mobile Fueling Operations

c. For Special Cases

- (1) SCAQMD Rule 1140 – Abrasive Blasting
- (2) SCAQMD Rule 1403 – Asbestos Emissions from Demolition/Renovation Activities
- (3) SCAQMD Rule 1166 – Volatile Organic Compound Emissions from Decontamination of Soil

d. Contractor Equipment

- (1) SCAQMD Rule 1110.2 – Emissions from Gaseous and Liquid-Fueled Engines
- (2) Title 13, California Code of Regulations, Sections 2450-2465 – Statewide Portable Equipment Registration
- (3) Title 13, California Code of Regulations, Section 2485 – Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling

- (4) Title 13, California Code of Regulations, Sections 93116-93116.5 – Airborne Toxic Control Measure for Portable Diesel-Fueled Engines
- (5) Title 13, California Code of Regulations, Sections 2775-2775.2 - Large Spark-Ignition (LSI) Engine Fleet Requirements Regulation
- (6) Title 13, California Code of Regulations, Sections 2449-2449.2 - Regulation for In-Use Off-Road Diesel-Fueled Fleets
- (7) Title 13, California Code of Regulations, Section 2025 - Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen and Other Criteria Pollutants from In-Use Heavy-Duty Diesel-Fueled Vehicles. (Truck and Bus Regulation)
- (8) Title 13, California Code of Regulations, Sections 2195-2199.2 - Heavy-Duty Vehicle Inspection and Maintenance Program (Clean Truck Check)
- (9) Title 13, California Code of Regulations, Sections 2013-2015.6 – Advanced Clean Fleets Regulation

D. Truck and Bus

During construction, trucks and vehicles in loading or unloading queues shall be kept with their engines off, when not in use, to reduce vehicle emissions and in accordance with the requirement set forth in Title 13 of the California Code of Regulations, Section 2485. Polluting construction activities shall be phased and scheduled to avoid emissions peaks, and discontinued during second-stage, or greater, smog alerts.

The DESIGN-BUILDER shall maintain equipment engines in proper tune and operate construction equipment so as to minimize exhaust emissions. The DESIGN-BUILDER shall not discharge air pollutants (including fugitive dust, smoke, and/or other air contaminants) into the atmosphere in such quantities that they will cause a violation of any rule and/or regulation adopted by the SCAQMD and/or any legally constituted authority.

If the DESIGN-BUILDER brings in a vehicle or vehicles subject to the Truck and Bus regulation, then the DESIGN-BUILDER shall submit to the OC SAN'S REPRESENTATIVE one of the following by January 31st of each year:

- Current Truck and Bus Certificate of Compliance; or
- Signed statement describing why that entity, or the Project, is not subject to the Truck and Bus Regulation.

Visible emissions from any engine shall not be as dark as or darker than No. 1 in the Ringleman Chart or equivalent to 20 percent opacity for a period or periods aggregating more than three minutes per hour per SCAQMD Rule 401, titled Visible Emissions.

E. Portable Equipment

The DESIGN-BUILDER shall comply with all air quality rules/regulations pertaining to applicable portable engines and equipment with a rated horsepower of 50 bhp or greater by meeting the following minimum requirements:

All portable engines with a rated horsepower of 50 bhp or greater shall be equipped with an operational and properly maintained non-resettable elapsed hour meter. Operation of such engines shall not cause a public nuisance. Proper records shall be maintained as described in SCAQMD rules and various location permits and/or CARB regulations and registrations.

Readings from the meters shall be recorded prior to the commencement of operation and at the completion of the Project, or if operating at multiple locations within a stationary source, readings shall be recorded at the beginning and end of each calendar week. No engine and/or portable equipment required to abide by the abovementioned rules and/or regulations shall be located at OC SAN facilities for more than 12 consecutive months. Prior to stationing any engine and/or portable equipment that is required to abide by the abovementioned rules and/or regulations, the DESIGN-BUILDER shall provide the OC SAN'S REPRESENTATIVE with a written inventory of such equipment including date of onsite arrival.

Pursuant to the Regulation for the Reporting of Criteria Air Pollutants and Toxic Air Contaminants (CTR), OC SAN must report all emissions from the use of portable diesel-fueled engines and devices (with a rated horsepower of 50 bhp or greater) operated at Plant 1 and Plant 2. Thus, for all DESIGN-BUILDER equipment operated at Plant No. 1 or Plant No. 2 with a PERP registration or a SCAQMD various locations permit, the DESIGN-BUILDER shall maintain and provide the OC SAN'S REPRESENTATIVE with copies of usage records/unit specific logs containing, at the minimum, the following information detailing all operations of the aforementioned equipment:

1. Date of usage
2. Start and End Totalizer meter readings
3. Specific location of use
4. Description of application
5. Unit ID (if applicable) and Permit Number/Registration Number
6. Fuel type and consumption rate

A copy of these records shall be provided to the OC SAN'S REPRESENTATIVE 15 days following the end of each quarter.

F. Fueling of Engine-Driven Equipment

The DESIGN-BUILDER shall comply with the terms and conditions set forth by SCAQMD Rule 461, Gasoline Transfer and Dispensing, and SCAQMD Rule 461.1, titled Gasoline Transfer and Dispensing for Mobile Fueling Operations. During fueling of all vehicles and equipment, the DESIGN-BUILDER shall have personnel in direct control of the fueling operation at all times to prevent fuel spills. All fueling activities shall be continually monitored at all times.

G. Volatile Organic Compounds (VOC)

The DESIGN-BUILDER shall maintain usage records of volatile organic compound (VOC) containing materials in accordance with SCAQMD Rule 109, titled Recordkeeping for Volatile Organic Compound Emissions, and pay accordingly, the annual fees per Rule 301, titled Permitting and Associated Fees. The DESIGN-BUILDER shall submit the usage records to the OC SAN'S REPRESENTATIVE on a monthly basis throughout the Work duration on the premises. The usage records shall contain, at the minimum, the following information:

1. Manufacturer's Name
2. Manufacture Product Name, ID No., or code that uniquely identifies the material.
3. Material Category
4. Quantity Used/Applied (in gallons).
5. VOC Content (in lb/gal) of each material, as applied, less water and exempt compounds.
6. VOC Content (in lb/gal) of each material, as applied, including water and exempt compounds.
7. The type of activity or substrate to which the materials are applied.
8. Identification of applicable SCAQMD Rule Number or California Code section.

H. Abrasive Blasting

In addition to demonstrating and certifying compliance with the terms and provisions set forth in SCAQMD Rule 1140, Abrasive Blasting, the DESIGN-BUILDER shall maintain records of all abrasive materials used and their designated CARB certification. The DESIGN-BUILDER shall submit the abrasive blasting usage records to the OC SAN'S REPRESENTATIVE on a quarterly basis throughout the Work duration on the premises.

I. Fugitive Dust

The DESIGN-BUILDER shall comply with the provisions set forth in SCAQMD Rule 403, Fugitive Dust, in its entirety by preventing, reducing, or mitigating fugitive dust emissions. The DESIGN-BUILDER shall not allow fugitive dust emissions to be visible beyond OC SAN facilities' property lines. The DESIGN-BUILDER shall use reasonable and typical watering techniques to reduce fugitive dust emissions. The DESIGN-BUILDER shall furnish all labor, equipment, and means required (including watering or soil binders) and shall carry out effective measures wherever and as often as necessary to prevent its operation from producing dust in amounts that are damaging to property, cultivated vegetation, or domestic animals; or that are causing a nuisance as determined by the OC SAN'S REPRESENTATIVE. All unpaved demolition and construction areas shall be wetted as necessary during excavation and construction, and temporary dust covers shall be used to reduce dust emissions and ensure compliance with SCAQMD Rule 403, titled Fugitive Dust.

Soil binders shall be spread on site, unpaved roads, and parking areas when needed to control dust and wind-blown particles from causing a nuisance or violating air quality standards.

The DESIGN-BUILDER shall submit a dust control plan and obtain the OC SAN'S REPRESENTATIVE's acceptance before beginning Work off paved roads or any activity that could stir up dust.

J. Odor Control

In accordance with SCAQMD Rule 402, titled Nuisance, the DESIGN-BUILDER shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public. The DESIGN-BUILDER shall furnish all labor, materials, and equipment required and shall carry out effective measures wherever and as often as necessary to prevent the discharge of a nuisance odor from its operation into the atmosphere in such quantity as will violate the regulations of any legally constituted authority or that will cause public complaints. During construction, the DESIGN-BUILDER shall notify the OC SAN'S REPRESENTATIVE at least 48 hours in advance when potential odor-causing activities are scheduled for construction.

K. Housekeeping and Rubbish Control

Through all phases of construction, including suspension of Work and until Final Completion of the Work, the DESIGN-BUILDER shall keep the worksite and other areas used by it in a neat and clean condition, and free from any accumulation of rubbish and debris. The DESIGN-BUILDER shall dispose of all rubbish and waste materials of any nature occurring at the Work site and shall establish regular intervals of collection and disposal of such materials and waste. Rubbish and debris slated for disposal or recycle shall be located in rubbish or recycle containers at the completion of each workday. The DESIGN-BUILDER shall also keep its haul roads free from dirt, rubbish, and unnecessary obstructions resulting from its operations. Care shall be taken to prevent spillage and/or tracking of soils on haul routes. Any such spillage shall be immediately contained and removed, and the area cleaned. Equipment and material storage shall be confined to areas accepted by OC SAN'S REPRESENTATIVE. Disposal of all rubbish and surplus materials shall be off the site of construction, at the DESIGN-BUILDER's expense, all in accordance with federal, state, and local codes and ordinances governing locations and methods of disposal, and in conformance with all applicable safety laws, and the requirements of the Code of Federal Regulations, Title 29, Part 1910, U.S. Occupational Safety and Health Standards (OSHA), and Part 1926, U.S. Safety and Health Regulations for Construction (OSHA). All cleanup costs shall be included in the DESIGN-BUILDER's Bid.

L. Sanitation

The DESIGN-BUILDER shall not use any OC SAN sanitation facilities. The DESIGN-BUILDER shall provide fixed and/or portable chemical toilets for the use of the DESIGN-BUILDER's employees. These accommodations shall be maintained in a neat and sanitary condition. Toilets at construction sites shall conform to the requirements of the California Code of Regulations, Title 8, Division 1, Chapter 4, Subchapter 4, Article 3, Section 1526, Toilets at Construction Jobsites.

The DESIGN-BUILDER shall provide hand washing facilities with hot and cold water in accordance Title 8, Division 1, Chapter 4, Subchapter 4, Article 3, Section 1527, Washing Facilities, Food Handling, and Temporary Sleeping Quarters.

Wastewater conveyance and disposal shall not be interrupted. Should the DESIGN-BUILDER disrupt existing sewer facilities, sewage shall be conveyed in closed conduits and disposed of in a sanitary sewer system. The DESIGN-BUILDER shall submit a proposed bypass system for OC SAN review. Sewage shall not be permitted to flow in trenches or be covered by backfill.

The DESIGN-BUILDER shall establish a regular schedule for collection and disposal of all sanitary and organic waste. All wastes and refuse from sanitary facilities provided by the DESIGN-BUILDER or organic material wastes from any other source related to the DESIGN-BUILDER's operations shall be disposed of away from the site in a manner satisfactory to the OC SAN'S REPRESENTATIVE and in accordance with all laws and regulations pertaining thereto. Disposal of all such wastes shall be at the DESIGN-BUILDER's expense.

M. Drinking Water

The DESIGN-BUILDER shall provide an adequate supply of potable drinking water per 8CCR1524 for the DESIGN-BUILDER employees at the worksite.

WARNING: The DESIGN-BUILDER shall not use any OC SAN pipeline for supplying potable water to the DESIGN-BUILDER employee drinking water.

N. Chemicals

The following paragraph does not relieve the DESIGN-BUILDER from its responsibility for obtaining prior OC SAN'S REPRESENTATIVE's acceptance for chemical usage when otherwise required.

The DESIGN-BUILDER shall provide four copies of the Safety Data Sheets (SDS) to the OC SAN'S REPRESENTATIVE for all chemicals used during construction or operational activities, prior to bringing them on site, whether defoliant, soil sterilant, herbicide, pesticide, disinfectant, polymer, reactant, or of other classification, which shall show approval of either the U.S. Environmental Protection Agency or the U.S. Department of Agriculture. Use of all such chemicals and disposal of residues shall be in strict accordance with the printed instructions of the manufacturer.

The DESIGN-BUILDER shall comply with the provisions of the General Requirements sections entitled "Safety – General."

Q. Paint and Surface Coatings Notification

The DESIGN-BUILDER is hereby notified that the facility under this Contract may contain Lead (Pb), Chromium (Cr) and Molybdenum (Mo).

If any paints or surface coatings are to be physically disturbed or made airborne during the progress of the Work by activities such as abrasive blasting, welding, cutting or torch burning; the DESIGN-BUILDER shall provide appropriate worker protection in accordance with applicable OSHA and Cal/OSHA requirements. The DESIGN-BUILDER shall comply with the provisions the General Requirements section entitled "Safety - General" and with all California Hazardous Waste storage and disposal regulations. Refer to the General Requirements section entitled "Hazardous Waste."

P. Soils, Soil borings and Soil-Related Waste Disposal

The DESIGN-BUILDER shall submit for the OC SAN'S REPRESENTATIVE's acceptance a management plan for staging, storage, and disposal of all soil-related waste material. The analytical results will determine hazardous or non-hazardous status of the soil samples and appropriate disposal methods. If any soil material is to be transported off the construction site, soil analytical results included in the Construction Documents shall be submitted to the OC SAN'S REPRESENTATIVE to certify hazard status for each load at least five workdays prior to transport. The DESIGN-BUILDER shall obtain a signature by OC SAN for hazardous and non-hazardous waste manifests. The DESIGN-BUILDER shall provide a 48-hour advance notice of when the signature is needed.

During soil boring and/or excavation, in the event volatile organic compound odors are detected, the DESIGN-BUILDER shall make immediate notification to the OC SAN'S REPRESENTATIVE. Pursuant to SCAQMD Rule 1166, titled Volatile Organic Compound Emissions from Decontamination of Soil, the DESIGN-BUILDER shall work with the OC SAN'S REPRESENTATIVE to ensure compliance with the requirements stipulated in SCAQMD Rule 1166 including mitigation plan requirements.

For loads certified as hazardous, OC SAN will work with the DESIGN-BUILDER on the disposal of the waste in accordance with the General Requirements section entitled "Hazardous Waste."

Q. Asbestos

It is the specific intent of the Construction Documents to exclude from the Work all new products and/or materials containing asbestos. No products containing asbestos shall be incorporated in the Work. The DESIGN-BUILDER shall immediately notify the OC SAN'S REPRESENTATIVE upon discovery of such materials in the construction area that may contain asbestos not already identified in the Construction Documents.

- If any asbestos-containing materials are to be physically disturbed or made airborne during the progress of the Work by activities such as demolition, remodel or remediation, the DESIGN-BUILDER shall provide appropriate worker protection in accordance with applicable Cal/OSHA requirements and shall remove asbestos materials from the construction area in compliance with all applicable rules/regulations as adopted by any legally constituted authority including local, State and Federal governing agencies. The abatement contractor is responsible for making notifications to SCAQMD in accordance with the requirements of SCAQMD's Rule 1403. Removal shall be performed by a Subcontractor specifically certified and licensed in asbestos abatement per the California Code of Regulations, Title 8, Sections 1529 and 5208.
- Proper and compliant Container Labeling
- Proper Transportation Vehicle Marking (as required by OC SAN)
- Maintenance and retention of Waste Shipment Records (as required by OC SAN)
- Proper and compliant Record Keeping

The DESIGN-BUILDER shall use appropriate warning labels, signs, and markings as applicable. The DESIGN-BUILDER is responsible for obtaining a signature by "OC SAN Safety Personnel" on all generated asbestos waste manifests. The DESIGN-BUILDER shall comply with the provisions set forth in the General Requirements section entitled "Construction Safety Plan" and with all California Hazardous Waste storage and disposal regulations.

OC SAN will work with the DESIGN-BUILDER on the disposal of any Asbestos-Containing Materials waste in accordance with the General Requirements section entitled "Hazardous Waste."

The DESIGN-BUILDER shall request any asbestos storage containers from OC SAN five workdays in advance of the remediation of asbestos material. The DESIGN-BUILDER shall make arrangements with OC SAN on the storage of the asbestos waste before remediation begins. The DESIGN-BUILDER shall comply with the provisions the General Requirements section entitled "Safety - General" and with all California Hazardous Waste storage and disposal regulations.

R. Hazardous Waste

The DESIGN-BUILDER shall possess a valid EPA generator number for hazardous waste prior to any waste being brought and/or generated on the Project site.

The DESIGN-BUILDER shall submit and, upon the OC SAN'S REPRESENTATIVE's acceptance, implement a Project-wide hazardous waste management plan, and shall maintain and update it for the duration of the Contract based upon initial geotechnical report sampling analytical results and other test reports included in the Construction Documents and/or undisclosed OC SAN-generated hazardous waste discovered during the Project. The hazardous waste management plan shall ensure compliance with all applicable federal, state and local regulations for storage, management, transport, and disposal.

The DESIGN-BUILDER shall designate a Hazardous Waste On-Site Project Manager and shall provide proof of the person's current certification in the following: DOT hazardous material training per 49 CFR, Part 172, Subpart H, and management of hazardous waste in California per the Resource Conservation and Recovery Act (RCRA) and California Code of Regulations, Title 22.

The DESIGN-BUILDER shall provide proof of the current certification of the hazardous waste transporter per 49 CFR, Part 172, Subpart H.

Hazardous waste owned by OC SAN prior to the effective date of the Notice to Proceed (e.g., lead-based paint, asbestos, contaminated soil) will be considered OC SAN-generated waste, which requires OC SAN to sign and receive copies of manifested paperwork. OC SAN will work with the DESIGN-BUILDER on the disposal of the OC SAN-generated waste using the OC SAN-approved hazardous waste transportation and disposal vendor. OC SAN will pay for the transportation and disposal of the OC SAN-generated waste. The DESIGN-BUILDER shall make arrangements with OC SAN on the storage of the OC SAN-generated waste while waiting for disposal.

Hazardous waste brought and/or generated on site by the DESIGN-BUILDER shall be considered DESIGN-BUILDER-generated waste and shall be the financial and legal responsibility of the DESIGN-BUILDER.

S. Explosives for Blasting

The use of explosives shall not be permitted.

I. Protection of Wildlife

If any Work in this Contract might disturb wildlife, even in urban areas, a Biological Monitor shall be hired by the DESIGN-BUILDER to provide assistance in the field to assure that biological resources are protected and that Project-specific mitigation measures are implemented. The Biological Monitor shall be qualified for the tasks to be performed. If endangered or threatened species are present in the Project area and require removal or relocation, the Biological Monitor shall hold the appropriate permits and approvals for access and capture or marking of the species of concern. Specific activities of the Biological Monitor may include the following:

1. Marking areas to be protected from construction activity.
2. Observing construction activities and their impacts on biota.
3. Capturing and relocating biota as necessary to protect them from construction activities.

Prior to the removal of healthy trees at a worksite, a Biological Monitor shall survey the trees to determine if active bird nests are present. If nests of sensitive species are present, tree removal will be scheduled to avoid the nesting season. The DESIGN-BUILDER shall provide a written record of whether tree removal is required and shall coordinate with the OC SAN'S REPRESENTATIVE to determine if nesting birds (listed species of special interest of those as threatened or endangered) are present in the trees to be removed. Refer to the Specifications section(s) regarding detailed landscaping requirements.

U. Groundwater Dewatering

The DESIGN-BUILDER shall comply with OC SAN's dewatering requirements. Water from dewatering operations shall be disposed of in a suitable manner in conformance with the OC SAN Wastewater Discharge Regulations and the National Pollutant Discharge Elimination System (NPDES) Permit, as approved by the Regional Water Quality Control Board, Santa Ana Region (RWQCB), and OC SAN.

V. Construction Site Storm Water Management

Unless the Construction Documents include a dedicated Specifications section(s) with detailed stormwater pollution management requirements, the following shall apply.

OC SAN is regulated by the National Pollutant Discharge Elimination System (NPDES) permit CA0110604 and SWRCB Order No. R8-2021-0010.

To prevent impairment to surface water quality from construction site discharges to surface waters, the DESIGN-BUILDER including the DESIGN-BUILDER's and Subcontractors' personnel shall comply with the OC SAN On-Site Stormwater Management Plan (OSSWMP) which outlines requirements for on-site compliance with applicable stormwater regulations, and with the OC SAN'S REPRESENTATIVE's directions, if any. Prior to mobilization completion, the DESIGN-BUILDER and the OC SAN'S REPRESENTATIVE shall discuss the stormwater requirements of the Contract in a formal meeting to obtain additional directions, if any, from the OC SAN'S REPRESENTATIVE.

Comply with the latest applicable editions of the stormwater management-related laws and regulations of the applicable federal, state, county, city, and special district jurisdictions.

All flows from this Project's construction and the associated activities shall be collected within the construction site and returned to the OC SAN treatment process, and no water and/or sedimentation shall leave this Project's construction site and/or OC SAN property, or hinder OC SAN plant roadways.

As a minimum, the DESIGN-BUILDER shall use Best Management Practices (BMPs) per CASQA Construction Stormwater Best Management Practice (internet portal) to protect the staging area, construction activity areas, and temporary power equipment locations, except the use of Best Management Practice SE-8 "Sandbag Barrier" shall be deemed unacceptable.

The DESIGN-BUILDER's vehicles shall access the construction site through the facility gate designated by the OC SAN'S REPRESENTATIVE or as identified in the Construction Documents.

The DESIGN-BUILDER shall be aware that compliance with the requirements in the OSSWMP may require the use of erosion and sedimentation control procedures outside the limits of immediate construction activity as determined by the DESIGN-BUILDER and/or directed by the OC SAN'S REPRESENTATIVE. The DESIGN-BUILDER's compliance shall also include the installation, maintenance, and removal of temporary BMPs as necessary until and through the completion of the Project and/or as directed by the OC SAN'S REPRESENTATIVE.

Unless a stormwater control or prevention plan is required elsewhere in the Construction Documents, the DESIGN-BUILDER shall provide the following:

1. Submit a brief description of the Project that also indicates the Project's timeline and states whether any BMPs are intended for the Project. If BMPs are to be used, the DESIGN-BUILDER shall also submit the following:
 - a. A list of the BMPs intended for the Project and their periodicity.
 - b. A map indicating the BMP deployment locations (a markup of the maps attached to OC SAN On-Site Stormwater Management Plan shall be acceptable).

Keep the submitted stormwater documentation at the Project site at all times, fully updated, and make it available upon request for audit by the OC SAN'S REPRESENTATIVE of regulatory authorities having jurisdiction.

The DESIGN-BUILDER shall take all steps to minimize and prevent any pollutants from leaving OC SAN's property and prevent any violations. Non-adherence with the conditions specified in the OSSWMP may constitute a violation of the Clean Water Act and the Porter-Cologne Water Quality Control Act and may be grounds for enforcement action by the RWQCB and/or local regulators. OC SAN shall be reimbursed by the DESIGN-BUILDER for the fines and other associated costs incurred by OC SAN due to the DESIGN-BUILDER's lack of compliance with the OSSWMP.

Lack of compliance as determined by the OC SAN'S REPRESENTATIVE will cause the OC SAN'S REPRESENTATIVE to issue a written Notice of Non-Compliance to the DESIGN-BUILDER.

If the DESIGN-BUILDER determines that it cannot comply with the OSSWMP, the DESIGN-BUILDER shall notify the OC SAN'S REPRESENTATIVE immediately. The notification shall identify the type of non-compliance, describe the actions necessary to achieve compliance, and include a time schedule when compliance will be achieved. A written non-compliance notification for each such event shall be submitted within 15 days of identification of the event by the DESIGN-BUILDER.

W. Waterway Protection

The DESIGN-BUILDER shall enforce strict on-site handling rules to keep construction and maintenance materials out of receiving waters. The rules will include measures to:

1. Store all reserve fuel supplies only within the confines of a designated construction staging area.
2. Refuel equipment only within designated construction staging area.
3. Regularly inspect all construction vehicles for leaks. Place drip pans or similar under leaking vehicles.

The DESIGN-BUILDER, for Work outside the treatment plants, shall prepare a Spill Prevention, Control, and Countermeasure Plan (SPCCP). The plan shall include measures to be taken in the event of an accidental wastewater spill. Refer to the respective Specifications section(s) regarding detailed requirements for temporary handling of sewage flow.

The construction and staging areas as shown on the Plans shall be clearly marked and staked on the ground. Heavy equipment use outside this area shall be prohibited. The construction staging areas shall be designed to contain contaminants such as oil, grease, and fuel products so that they do not drain towards receiving waters or storm drain inlets. If heavy-duty construction equipment is stored overnight adjacent to a potential receiving water, drip pans will be placed beneath the machinery engine block and hydraulic systems.

A silt fence or similar BMP shall be constructed around the disturbed soil areas and all measures shall be taken to prevent erosion and transport of sediment into a waterway. Stockpiles shall be covered with plastic sheets to prevent erosion.

Excavated material shall be stockpiled within the construction staging area and installed with appropriate BMPs to prevent erosion and sediment from reaching the drain system.

The DESIGN-BUILDER shall prepare an Erosion Control Plan (ECP) and submit for review by the DESIGNER OF RECORD.

X. Field Monitoring, Documentation and Restoration

For construction outside the treatment plants, the DESIGN-BUILDER shall videotape the site, including staging and storage areas, prior to commencing Work.

All existing vegetation, except for common grass, shall be inventoried and shown and labeled on a scaled drawing.

After completing the Work, the DESIGN-BUILDER shall restore the disturbed vegetation to a level substantially similar to the existing condition prior to performing any construction-related activity.

All re-vegetation shall be done in accordance with the Re-Vegetation Plan provided by the DESIGN-BUILDER and prepared by a landscape architect. All Work shall be done in accordance with the approved plan which may include incorporation of certain native or drought-tolerant plants to comply with permit conditions of various environmental agencies or in conformity with local landscaping ordinances.

Y. Protecting Archaeological and Cultural Resources

If cultural resources are encountered at any time during Project excavation, construction personnel shall avoid altering these materials and their context until a qualified archaeologist has evaluated the situation. Project personnel shall not collect or retain cultural resources. Prehistoric resources include, but are not limited to, chert or obsidian flakes, projectile points, mortars, and pestles; and dark, friable soil containing shell and bone, dietary debris, heat-affected rock, or human burials. Historic resources include stone or adobe foundations or walls; structures and remains with square nails; and refuse deposits (glass, metal, wood, ceramics), often found in old wells and privies.

Records of site inspections shall be maintained in OC SAN's administrative records. Following construction, a post-construction site inspection shall be made to determine the degree to which the final site modifications have impact site descriptions and future access.

Z. Discovery of Human Remains

In the event of accidental discovery or recognition of any human remains, the County Coroner shall be notified immediately, and construction activities shall be halted. If the remains are found to be Native American, the Native American Heritage Commission shall be notified within 24 hours. Guidelines of the Native American Heritage Commission shall be adhered to in the treatment and disposition of the remains.

AA. Recycling of Materials for Collection System Projects

For Collection System Projects - Recycling of demolition and construction materials is encouraged by OC SAN. Recycled materials shall comply with the requirements for the city where the Work is being performed. The local contractors are encouraged to provide for the recycling of demolition materials where the quantities are sufficient to make it cost-effective.

A Recycling Feasibility Evaluation may be required for certain projects which have large amounts (more than 100 tons) of asphalt or concrete that are potentially recyclable and are 20 percent more than the cost of disposal.

GR-7 WORKING HOURS/OC SAN BUSINESS HOURS

A working day shall be Monday through Friday, and shall be between 7:00 a.m. and 3:30 p.m., unless otherwise accepted by the OC SAN'S REPRESENTATIVE in writing. The written request for an alternative construction work schedule is required at least forty-five (45) days in advance. On occasion, but without guarantee, OC SAN may grant the DESIGN-BUILDER's request for a temporary alternative construction work schedule. Any granted alternative work schedule may be revoked, should it become problematic for the Public/OC SAN to continue to accommodate.

OC SAN Plant No.1 and Plant No. 2 business hours, which includes DESIGN-BUILDER access to field offices at the plants, are Monday – Friday, 5:30 am – 6:00 pm. On occasion, but without guarantee, OC SAN may grant the DESIGN-BUILDER's request for a temporary alternative office work schedule outside of plant business hours for office work only. The DESIGN-BUILDER shall provide advanced notification to the OC SAN'S REPRESENTATIVE for all DESIGN-BUILDER employees entering or working outside of plant business hours. The DESIGN-BUILDER must provide the names, dates, and contact information for each employee to the OC SAN'S REPRESENTATIVE for purposes of entering into the OC SAN visitor registration system. Any granted alternative office work schedule may be revoked, should it become problematic for the Public/OC SAN to continue to accommodate.

For collection system projects not located on OC SAN property, work hours are 7:00 am – 3:30 pm unless otherwise approved by the OC SAN'S REPRESENTATIVE or dictated by permit requirements for the jurisdiction where the Work is being performed. Work hours for the respective locations shall be presented by the DESIGN-BUILDER and documented as part of the Pre-Construction Meeting.

GR-8 PERMITS

Refer to the respective Specification section(s) regarding detailed requirements for permits.

GR-9 PUBLIC CONVENIENCE AND ACCESS

The DESIGN-BUILDER shall conduct operations so as to cause the minimum obstruction and inconveniences to traffic and to places of business and residences adjacent to the worksite. No greater quantity of Work shall be under construction at any one time than can be properly conducted with due regard for the rights and safety of the public. Where existing streets are not available for detours, all traffic shall be permitted to pass through the worksite with as little inconvenience and delay as possible, unless otherwise provided or authorized. If only half the street is under construction, the other half shall be conditioned and maintained as a detour. The DESIGN-BUILDER shall submit for OC SAN'S REPRESENTATIVE's acceptance, a traffic control plan stamped and signed by a Traffic Engineer registered in the State of California.

The DESIGN-BUILDER shall provide unobstructed access to all fire hydrants at all times unless otherwise approved by the Fire Authority having jurisdiction.

Safe, adequate pedestrian access to all residences, places of business, and other establishments affected by the Work shall be provided and maintained by the DESIGN-BUILDER at all times.

The DESIGN-BUILDER shall provide safe, adequate crossings for pedestrians at each street intersection, cross street, pedestrian crossing and at bus and other forms of public transportation stops.

In streets or roadways where street intersections, cross streets, pedestrian crosswalks, or overpasses are limited or do not exist, the DESIGN-BUILDER shall provide for safe, adequate pedestrian crossing at intervals of not more than 300 feet as directed by the city.

Where the worksite is in a right-of-way, the DESIGN-BUILDER shall provide adequate pedestrian crossings at street crossings or at intervals not exceeding 350 feet as required, unless otherwise directed by the OC SAN'S REPRESENTATIVE and the city. Unobstructed vehicular access shall be provided and maintained by the DESIGN-BUILDER at all times to fire stations, police stations, hospitals, or other similar establishments engaged in work of an emergency nature or in work directly connected with the public safety.

The DESIGN-BUILDER shall coordinate with officials of these establishments to ensure that 24-hour emergency access is available. The DESIGN-BUILDER shall provide a copy of the accepted Traffic Control Plan to the local police and fire departments and public transit facilities, seventy-two (72) hours prior to construction.

The DESIGN-BUILDER shall be required to provide and maintain safe and adequate vehicular access to driveways for residences only when, in the opinion of the OC SAN'S REPRESENTATIVE, unusual conditions or emergencies make such access necessary. If, however, backfill has been completed to the extent that safe access may be provided and the street, by the Construction Documents, is open to local traffic, the DESIGN-BUILDER shall immediately clear the street and driveways so that access may be provided and maintained.

Unless the DESIGN-BUILDER makes other arrangements satisfactory to the owners, when the DESIGN-BUILDER's Work interferes with vehicular access to places of business and public gathering, the DESIGN-BUILDER shall provide and maintain safe and adequate vehicular access to such places of business and public gathering to allow for the continuation of the ordinary conduct of business. If an establishment has direct vehicular access to a street, the DESIGN-BUILDER shall take all steps which are required to maintain at least one route for direct vehicular access to and from such street to the establishment.

The DESIGN-BUILDER shall make every reasonable effort to provide maximum access to churches on their Sabbath days. In addition, the DESIGN-BUILDER shall not park or store equipment at the site of a church on its Sabbath day.

In addition, the DESIGN-BUILDER shall cooperate with the various public and private agencies involved in street sweeping and/or collection and removal of trash and garbage from residences and businesses adjacent to the worksite, to maintain existing schedules for such collection and removal of trash and garbage.

At locations where traffic is being routed through grading operations, excavations and embankments shall be constructed in a manner to ensure that a surface reasonably satisfactory for traffic is provided at all times. Substructure installation or construction shall be conducted on only one-half the width of the traveled way at a time, and that portion of the traveled way being used by traffic shall be kept open and unobstructed until the opposite side of the traveled way is ready for use. Upon completion of the rough grading, the surface of the roadbed shall be brought to a smooth, even condition, free from humps and depressions, and made satisfactory for traffic.

The DESIGN-BUILDER shall provide and maintain such fences, barriers, directional signs, lights, and flagmen as are necessary to give adequate warning to the public at all times of any dangerous condition to be encountered as a result of the construction Work and to give directions to the public as appropriate.

The DESIGN-BUILDER shall employ, for the duration of the Project, a qualified Subcontractor that shall be responsible for the supply, maintenance, set-up, takedown and daily movement of all traffic signage, arrow boards, delineators, etc. The DESIGN-BUILDER shall submit to the OC SAN'S REPRESENTATIVE documentation to prove that the Subcontractor has at least five (5) years of experience in the specialty of traffic control. The DESIGN-BUILDER shall submit to the OC SAN'S REPRESENTATIVE resumes of proposed Subcontractor personnel that will document appropriate training in the field of traffic control, such as attendance at "Traffic Safety Through the Maintenance and Construction Zones" offered by the Office of Traffic Safety. Acceptance of the Subcontractor and personnel shall be at the discretion of the OC SAN'S REPRESENTATIVE.

All costs of complying with requirements of this section shall be included in the Bid prices for the various items of Work.

Prior to taking the primary route out of service, the DESIGN-BUILDER shall ensure that all detours are approved by the applicable city.

Notwithstanding the general requirements for traffic and access set forth above, if OC SAN or the DESIGN-BUILDER pursuant to the terms of the Contract are to develop an accepted traffic control plan, the Special Provisions of said Plans shall control over the general requirements and the DESIGN-BUILDER shall comply with all details of the accepted traffic plan at all times.

GR-10 ADVANCE NOTIFICATION FOR PLANT SHUTDOWN

The existing treatment plant facilities must be maintained in full operation during the execution of the Work. The DESIGN-BUILDER shall coordinate the Work to avoid any interference with normal operations of plant equipment and processes. If downtime of utilities or equipment occurs due to lack of schedule, DESIGN-BUILDER's error, or other items which are the DESIGN-BUILDER's fault, DESIGN-BUILDER shall work continuously (24 hours per day) until the utility or equipment is returned to operational condition acceptable to OC SAN. All costs for such Work shall be the responsibility of the DESIGN-BUILDER.

Downtime for piping, power interruptions and other utility services requiring taps or connections shall be kept at a minimum. Shutdown requests shall be submitted to the OC SAN'S REPRESENTATIVE. Request shall include a drawing identifying the system or equipment included in the shutdown request. OC SAN'S REPRESENTATIVE's written acceptance of shutdown requests shall be obtained twenty-one (21) days in advance. Maximum shut down for any facility is four (4) hours, unless otherwise detailed in the Construction Documents. The DESIGN-BUILDER shall provide diesel generators, temporary power feeds, or other measures, deemed necessary by OC SAN to maintain the operation of existing facilities. The DESIGN-BUILDER shall submit a written schedule and work sequence proposed to keep process equipment operational, detailing all Work to existing facilities, and the measures to be taken to eliminate or minimize facility downtime.

Any Work which blocks roadways, access to buildings and parking lots shall require written acceptance following the requirements above for notification and acceptance.

The DESIGN-BUILDER shall follow OC SAN's lockout/tagout procedures for isolation of equipment. OC SAN will provide tags and the DESIGN-BUILDER shall provide lockout devices.

If Work on energized electrical systems is required, refer to the section entitled "Working on Energized Systems" of the Contractor Safety Standards.

GR-11 ADVANCE NOTIFICATION TO AGENCIES

It shall be the DESIGN-BUILDER's responsibility to determine and notify those agencies requiring advance notification for inspection or other purposes before beginning construction in any jurisdictional area of an agency. A minimum two (2) weeks advance notice shall be given to the various agencies before beginning construction in the area unless specific advance times and requirements are stated in these Specifications or in permit conditions. The DESIGN-BUILDER shall inform OC SAN's Public Information Officer (PIO) of construction activities impacting residents, businesses, schools, and general public a minimum of two (2) weeks prior to performing any Work. These requirements are in addition to any other requirements set forth by the local jurisdiction. It is the responsibility of the DESIGN-BUILDER to provide a description of the construction Work taking place and the impacted area. If unexpected work arises and a two (2) week notification is not possible, the DESIGN-BUILDER shall be required to notify the Public Information Officer (PIO) as soon as possible of Work and assist (if needed) with the distribution of notices.

GR-12 REMOVAL OF OBSTRUCTIONS

The DESIGN-BUILDER shall remove, at DESIGN-BUILDER's expense, all obstructive rock, stones, debris, structures, or other such items, whether natural or artificial, encountered in the construction of the Work.

Material that is removed as herein specified and is not to be incorporated in the improvement being constructed or to be salvaged for OC SAN's use shall be removed from the site and legally disposed of by the DESIGN-BUILDER at DESIGN-BUILDER's expense unless otherwise specified.

Unless otherwise specified or directed by the OC SAN'S REPRESENTATIVE, the DESIGN-BUILDER shall replace all existing fences, walls and other structures to their original condition and location at the completion of the Work, whether or not replacement is specifically called out on the Construction Documents.

GR-13 SALVAGE AND REMOVAL OF EXISTING EQUIPMENT

All existing equipment and appurtenances designated to be demolished or removed, and not to be salvaged, shall be the property of the DESIGN-BUILDER and shall be removed from the site and legally disposed of at DESIGN-BUILDER's expense. Salvaged items shall be cleaned and relocated by the DESIGN-BUILDER to the plant area designated by OC SAN. During construction, the OC SAN'S REPRESENTATIVE may designate more items to be salvaged whether the items are indicated to be salvaged or not in the Construction Documents.

The DESIGN-BUILDER shall furnish all tools, equipment, material, and supplies, and perform all labor required to remove from service, prepare for storage, inventory, package, mark, and deliver to OC SAN any equipment and/or materials designated as salvage in the Plans or Specifications. The DESIGN-BUILDER shall prepare and submit a listing of all equipment identified for salvage. After the equipment is removed, revise and resubmit the list to include the date removed, estimated weight, description, and condition of each item.

The DESIGN-BUILDER shall disassemble and remove equipment carefully to prevent damage, empty all fluids from equipment, and plug all openings. Bubble wrap or double box delicate equipment. Box sizes shall be suitable for the item to be packed with cushioning material but without bulge and shall be minimum 200-pound test weight, taped on all unmade seams using 2 inch minimum clear 2 mil minimum industrial tape. Provide 48-inch x 48-inch pallets with minimum 2 x 4 main rails and 1-inch cross stiles nailed on both sides of the main rails. Bolt larger equipment to wooden pallets. Wrap equipment with waterproof plastic. Prepare individual manifests for each equipment container. Insert manifest into a clear cover envelope and tape to the side of the container.

The DESIGN-BUILDER shall use care in loading and delivering material to prevent damage, splitting and breakage of the material. The OC SAN'S REPRESENTATIVE will designate the OC SAN receiving party for all salvage material at either Plant No. 1 or No. 2.

GR-14 MAINTENANCE OF EXISTING IMPROVEMENTS

Unless otherwise indicated in the Construction Documents, OC SAN's facilities, public and private utilities and other surface or subsurface structures of any nature that may be affected by the Work shall be maintained by the DESIGN-BUILDER during the course of the Work. If the DESIGN-BUILDER, in the performance of the Work, damages any of the above, all expenses related to repair of the damages and loss of service shall be borne by the DESIGN-BUILDER. The DESIGN-BUILDER shall not operate any wastewater piping and/or equipment currently in service.

GR-15 TEMPORARY FACILITIES

The DESIGN-BUILDER shall provide temporary facilities to comply with requirements of all applicable Federal, State, and local safety rules and regulations. DESIGN-BUILDER shall be solely responsible for worksite safety. The DESIGN-BUILDER shall provide adequate barriers, guardrails, and enclosures around all worksites and adjacent to embankments and excavations for protection of workers and the public, as required by governing authorities having jurisdiction.

DESIGN-BUILDER's staging area(s) and storage facility(ies) located on the OC SAN premises shall have full-perimeter chain-link fencing with full-height full-perimeter vision screening on the outward facing side of the fence. The chain-link fence shall be made and installed in accordance with SSPWC sections 206-6 and 304-3, except: it shall be portable, installed without making holes or otherwise disturbing the underlying surfaces. The fence shall be galvanized steel; six (6) feet in height minimum unless specified otherwise elsewhere in the Construction Documents. Barbed wire shall not be required for locations at OC SAN Plants No. 1 and No. 2 unless specified otherwise elsewhere in the Construction Documents. The vision screening shall be clean green material in good condition, ninety (90) percent visibility blockage minimum, double-thick folded edge, securely attached to the fencing using grommets on all four sides.

The DESIGN-BUILDER shall provide and maintain construction facilities and temporary controls in proper and safe condition throughout the progress of the Work. In the event of loss or damage, the DESIGN-BUILDER shall promptly restore temporary construction facilities and controls by repair or replacement at no change in the Contract Price or time of completion.

The DESIGN-BUILDER shall provide and maintain temporary sanitary facilities and enclosures for use by construction personnel. The DESIGN-BUILDER shall not use permanent sanitary facilities unless accepted by OC SAN. Immediately prior to the Substantial Completion review(s), thoroughly clean and sanitize permanent sanitary facilities used during construction.

The DESIGN-BUILDER shall provide temporary lighting as necessary for proper performance of construction activities and for inspection of the Work.

- Provide branch wiring from power source to distribution boxes with lighting conductors.
- GFI breakers, pigtails, and lamps as required.
- Maintain lighting and provide routine repairs.

GR-16 SEISMIC DESIGN AND CONSTRUCTION

The installation of all equipment and appurtenances shall comply with the requirements of the applicable edition of the California Building Code (California Code of Regulations, Title 24, Part 2). Supports and connections shall be designed to prevent sliding or overturning, in accordance with the Code and these Specifications. Brackets and anchors shall be of ductile materials so that they can absorb energy and continue to carry load. Any changes to the design affecting structural components shall be documented on drawings stamped and signed by a Structural Engineer registered in the State of California and shall be submitted for the DESIGNER OF RECORD's acceptance.

GR-17 EQUIPMENT START-UP REQUIREMENTS

The DESIGN-BUILDER shall:

- Provide qualified and experienced personnel to verify the proper installation; including alignment, mounting, adjustment, lubrication, and setup; of all equipment, such as engines, motors, pumps, VFDs, blowers, control systems, instrumentation, computers, and all miscellaneous electrical items, etc. These personnel shall supervise the start-up and the initial checkout and operation of the equipment.
- Submit to the OC SAN'S REPRESENTATIVE for prior acceptance a startup time schedule and checkout procedure documents.
- Participate in Commissioning Coordination meetings.
- Coordinate with all equipment manufacturers to ensure that their personnel are available until the equipment performance tests specified are completed.

If the DESIGN-BUILDER fails to comply with the start-up requirements, OC SAN'S REPRESENTATIVE shall notify the DESIGN-BUILDER by letter of the noncompliance. If the DESIGN-BUILDER has still not complied within the time specified, OC SAN'S REPRESENTATIVE may take the responsibility for startup and deduct all the costs thereof from the Contract.

GR-18 MEETINGS

DESIGN-BUILDER shall attend the following meetings at a minimum:

- Pre-Construction
- Schedule
- Submittal
- Weekly Progress
- Safety
- Commissioning
- Job Hazard Analysis, as required.
- Other meetings as required by the OC SAN'S REPRESENTATIVE.

GR-19 TRAINING

DESIGN-BUILDER shall comply with the requirements of Specifications Section 01820, Training of OC SAN Personnel.

GR-20 RESERVED

GR-21 PROJECT INFORMATION SIGNS

Furnish and install Project information signs and the related framing, supports and foundations at the location(s) acceptable to the OC SAN'S REPRESENTATIVE within 30 days of the Notice to Proceed. Prior to fabrication of the signs, submit a "mock-up" sample of the proposed signs, information and graphics for review and acceptance by the OC SAN'S REPRESENTATIVE. Allow no other signs to be displayed.

The structure and framing shall be allowed to be new or used, wood or metal, in sound condition, structurally adequate to work and suitable for specified finish. The sign surfaces shall be exterior softwood plywood with medium density overlay, standard large sizes to minimize joints; the thickness shall be as required by standards to span framing members

and to provide even, smooth surface without waves or buckles. The rough hardware shall be galvanized.

The size of the signs and lettering shall be as required by applicable regulatory agencies, or as appropriate for usage. The sign colors for structure, framing, sign surfaces and graphics shall be uniform colors throughout the Project, shall comply with the requirements of applicable regulatory agencies, and shall be as selected by OC SAN'S REPRESENTATIVE.

The signs shall be painted signs, with painted lettering. Finishes and painting shall be exterior quality, adequate to resist weathering and fading for the duration of the construction. Use bulletin colors for graphics.

Maintain the signs and the related framing, supports and foundations in a neat, clean condition; repair damages to structure, framing and/or signs. Remove the signs, framing, supports and foundations at completion of Project.

CONTROL OF MATERIALS

GR-22 MATERIAL AND EQUIPMENT

All equipment, materials and supplies to be incorporated in the Work shall be new, unless otherwise specified. All equipment, materials and supplies shall be produced in a workmanlike manner. Fabricated materials or equipment to be incorporated in the Work shall be subject to acceptance by OC SAN'S REPRESENTATIVE.

The Specifications list manufacturers that are likely to provide the specified equipment. Provide products by same manufacturer when products are of similar nature, unless otherwise specified. Provide identical products when products are required in quantity. Provide products with interchangeable parts whenever possible.

All listed manufacturers may not provide a standard model that meets the Specification requirements and may not be willing to provide equipment that meets the requirements. Listed model designations may require modification to meet the Specification requirements.

Materials, equipment, or processes noted in the Construction Documents by a trade or manufacturer's name, specified by grade, patent or property name, are so designated primarily to establish standards of quality, finish, appearance, ruggedness or constructability and performance. It is not the intent to limit the choice of materials and equipment to the specific product designated. Similar articles of other origin, if accepted by OC SAN'S REPRESENTATIVE as equal to the designated product in quality, finish, appearance, and performance, shall be deemed to be included in the Construction Documents. However, requests relative to substitutions for materials or equipment specifically designated in the Construction Documents will not be considered until after award of the Contract. In the event that the DESIGN-BUILDER furnishes material, processes, or articles more expensive than that specified, the difference in cost of such material, processes, or articles so furnished shall be borne by the DESIGN-BUILDER.

The DESIGN-BUILDER shall be responsible to provide only those materials, equipment and supplies that fully conform with all applicable state and federal safety laws, rules, regulations, and orders, without additional charge to OC SAN, notwithstanding any omissions in the Construction Documents therefor or that a particular material, equipment or supply was specified.

GR-23 STANDARDS

The various standards referred to throughout the Specifications are indexed by number (i.e., AWWA C 104 or ASTM A 276). In each case, it is expected that the material or methods specified shall conform to the latest current standard or specification of the designated index number.

Tentative standards shall be construed as current unless otherwise noted. Where obsolete federal specifications have been shown as standards, they shall be superseded by the latest federal specifications covering the same subject.

Abbreviations used for various standards are noted in section entitled "Abbreviations" of these General Requirements.

GR-24 MATERIAL SAMPLES AND TESTS

At the option of the OC SAN'S REPRESENTATIVE, OC SAN'S REPRESENTATIVE's acceptance of the source of supply for each of the materials shall be required prior to delivery and before such material is used in the Work.

Representative preliminary samples of materials conforming to the quality prescribed in the Construction Documents shall be submitted by the DESIGN-BUILDER for testing or examination, as required by OC SAN'S REPRESENTATIVE.

All tests or materials furnished by the DESIGN-BUILDER shall be made in accordance with the commonly recognized standards of national technical organizations, and such special methods and tests as prescribed in the Specifications.

The DESIGN-BUILDER, at the DESIGN-BUILDER's sole expense, shall furnish OC SAN, in triplicate, certified copies of all required factory, laboratory, and mill test reports to verify material quality and composition. Any materials shipped to the DESIGN-BUILDER from a factory or mill prior to having satisfactorily passed such testing and inspection by a representative of OC SAN shall not be incorporated in the Work unless the OC SAN'S REPRESENTATIVE has notified the DESIGN-BUILDER in writing that such testing and inspection will not be required. The cost of performing all factory and mill tests shall be paid by the DESIGN-BUILDER unless otherwise required by the Construction Documents.

The DESIGN-BUILDER shall furnish such samples of materials as are requested by the OC SAN'S REPRESENTATIVE without charge. No material shall be used until accepted by the OC SAN'S REPRESENTATIVE. Samples will be secured and tested whenever necessary to determine the quality of the material. Cost for testing not specifically required by the Construction Documents will be paid by OC SAN.

GR-25 EQUIPMENT TESTING

The DESIGN-BUILDER shall test all equipment to show conformance with the Construction Documents as specified herein. Material testing and other specific factory and field-testing requirements for particular equipment may be specified in the equipment Specification sections. Detailed system acceptance test requirements are specified in Specification section 01810, Commissioning, and other sections of these Specifications (e.g., section 16080, Electrical Testing, and section 17405, Instrumentation and Control) where applicable. Testing shall be performed as follows:

1. All equipment shall be tested to verify its specified functionality. The DESIGN-BUILDER shall provide at least three (3) calendar weeks in advance notification for the OC SAN'S REPRESENTATIVE to attend all Off-Site testing/fabrications/welding and inspections of equipment if desired.
2. All specified equipment parameters are subject to verification during all tests.
3. Where possible, devices and systems shall be run through their entire range of operation to verify performance and required limit settings – switches, gate stops, etc.
4. All equipment, piping, etc. which may contain fluid shall be tested for leakage at full system operating pressure unless specified otherwise. Fluids for testing plant processes will initially be clean water, if available. The reliability acceptance testing will utilize actual process fluids unless specified otherwise.
5. Electrical and instrumentation systems shall be tested for proper connections.
6. All equipment shall be subject to a complete functional acceptance test (FAT) and a reliability acceptance test (RAT) as required in these Construction Documents. OC SAN operations personnel are typically involved in these tests as part of their training. The equipment will be operated at all achievable operating conditions.
7. Equipment exhibiting unusual or unacceptable operating characteristics shall be disassembled and inspected and defective components replaced by the DESIGN-BUILDER.
8. After the successful completion of FAT, all equipment shall be inspected for loose connections, leaking fluids, and any irregularities. All field-aligned equipment shall be checked for required alignment and, if necessary, re-aligned by the DESIGN-BUILDER after the equipment has reached operating temperature.
9. Failure to meet specified requirements shall be cause for retesting at the DESIGN-BUILDER 's expense until the requirements are met. Interruption of a continuous operation test due to equipment malfunction shall be cause to restart the test after repairs.
10. SCADA system programming will be provided by OC SAN when so specified in Specification section 17405, Instrumentation and Control. The DESIGN-BUILDER shall accommodate testing of programming by OC SAN as necessary in both the FAT and RAT. Equipment may be progressively operated and monitored by the SCADA system as programming is tested.
11. All testing instrumentation that can be calibrated shall have been calibrated within one year of testing operations.
12. The DESIGN-BUILDER shall furnish all power, ventilation, consumables, utilities, and temporary facilities necessary for tests if permanent systems are not available at the time of testing.
13. Qualified technicians, Electricians, and calibrated test instruments shall be provided by the DESIGN-BUILDER as necessary to perform tests. Certifications for test instruments and technical personnel shall be provided to prove the performance of tested equipment beyond reasonable doubt. In addition, the DESIGN-BUILDER shall furnish its own personnel, as needed, to make adjustments or alterations recommended by the equipment manufacturer's representative(s).

The DESIGN-BUILDER shall be responsible for coordinating testing of equipment and training sessions of OC SAN staff. The DESIGN-BUILDER shall join the Project Commissioning Team as defined in Specification section 01810, Commissioning. The DESIGN-BUILDER'S Training Representative shall have equivalent experience in similar projects. The Commissioning Team will meet as needed, but at least monthly, until the facility Beneficial Occupancy occurs.

The DESIGN-BUILDER shall propose a schedule for required testing and training for each piece of equipment or system at least two months prior to any event and the Commissioning Team will ensure that it is workable and effective. The DESIGN-BUILDER shall submit to OC SAN'S REPRESENTATIVE for their review and acceptance, the complete testing procedures for each system, including the forms to be used for recording the test results, prior to the FAT as defined in Specification section 01810, Commissioning. The schedule shall be updated weekly. Facility documentation and training shall be completed and accepted by OC SAN prior to the RAT as defined in Specification section 01810, Commissioning.

The DESIGN-BUILDER shall document the results of all testing with standard forms that were previously submitted and accepted, containing the equipment name, manufacturer, model, and serial number; equipment tag number; a diagram showing bearing locations; operating parameters; test equipment, witness signatures; and date. Include the motor and driven device on the same document. Submit the original and three copies of all records produced during the testing program. Submit documentation of all test equipment and its calibration prior to testing. A complete set of all original testing documentation shall be maintained by the DESIGN-BUILDER and submitted prior to Beneficial Occupancy. The testing documentation shall be organized in binders by equipment number and have an index of included equipment listing the name and number of the tested equipment.

GR-26 SHIPPING, STORAGE & HANDLING OF MATERIALS & EQUIPMENT

DESIGN-BUILDER shall provide sufficient delivery location information (contact name and phone number) to shippers for proper delivery to the DESIGN-BUILDER's office or Work site. Deliveries without proper information will not be allowed access to the site.

The DESIGN-BUILDER shall store all work materials and equipment to ensure the preservation of their quality and fitness. Storage conditions shall be in accordance with the manufacturer's requirements and shall be acceptable to the OC SAN'S REPRESENTATIVE for all materials and equipment not yet incorporated into the Work. When considered necessary by the OC SAN'S REPRESENTATIVE, said material and equipment shall be placed on platforms, covered, and provided with an internal and external moisture protection system. Stored materials or equipment shall be so located as to facilitate prompt inspection. Any material or equipment which has not been effectively stored or protected shall be considered defective and subject to rejection.

Off-site storage facilities shall be accessible to the OC SAN'S REPRESENTATIVE and shall be insured for full value. Certification of bonded warehouse or other insured storage facility shall be submitted to and accepted by the OC SAN'S REPRESENTATIVE prior to any request for payment by the DESIGN-BUILDER. All arrangements and costs for storage facilities shall be paid by the DESIGN-BUILDER, unless specifically designated

in the Construction Documents. The DESIGN- BUILDER shall maintain an inspection log verifying stored conditions on a monthly basis, available for OC SAN'S REPRESENTATIVE's inspection upon request.

Equipment and materials stored within the treatment plants shall not be stored outside of the Work and Staging Areas identified in the Construction Documents or otherwise assigned by the OC SAN'S REPRESENTATIVE.

GR-27 DEFECTIVE MATERIALS AND EQUIPMENT

All materials and equipment not conforming to the Construction Documents shall be considered defective even though OC SAN'S REPRESENTATIVE may have previously overlooked and accepted them. All such materials and equipment, whether in place or not, shall be rejected and be removed immediately from the worksite unless otherwise permitted by OC SAN'S REPRESENTATIVE. No rejected material or equipment, the defects of which have been subsequently corrected, shall be used until accepted in writing by OC SAN'S REPRESENTATIVE.

Upon failure on the part of the DESIGN-BUILDER to comply with any order of OC SAN'S REPRESENTATIVE made under the provisions of this section, OC SAN'S REPRESENTATIVE shall have authority to remove or replace defective material and equipment and to deduct the cost of removal and replacement from any monies due or to become due the DESIGN-BUILDER.

GR-28 EQUIPMENT SERVICE MANUALS

For the equipment service manual requirements, refer to the respective Specifications section.

CONTROL OF WORK

GR-29 INSPECTION

DESIGN MANAGER, OC SAN'S REPRESENTATIVE and other OC SAN Agents shall at all times have access to the entire worksite during construction and shall be furnished with every reasonable facility for ascertaining that the stock and materials used and employed, and the workmanship, are in accordance with the requirements and intentions of the Specifications. All Work done and all materials furnished shall be subject to inspection and acceptance. The DESIGN-BUILDER shall give twenty-four (24) hour notice to OC SAN'S REPRESENTATIVE in advance of backfilling or otherwise covering any part of the Work so that OC SAN'S REPRESENTATIVE may, if desired, observe such part of the Work, before it is concealed. The DESIGN-BUILDER shall give twenty-four (24) hour written notice for all required inspections. (Whenever the DESIGN-BUILDER varies the period during which work is carried on each day, the DESIGN-BUILDER shall give due notice to OC SAN'S REPRESENTATIVE so that proper inspection may be provided.) The DESIGN-BUILDER shall give two (2) weeks written notice for all offsite inspections or testing and provide written notice at least one day in advance to cancel any inspection work.

The DESIGN-BUILDER shall execute and schedule the Work per the Construction Documents with the full knowledge of OC SAN'S REPRESENTATIVE or agent(s), and any Work done without the knowledge of OC SAN'S REPRESENTATIVE or agent(s) shall be subject to rejection.

The inspection of the Work or payment therefore shall not relieve the DESIGN-BUILDER of any obligations to fulfill the Contract as prescribed. Defective Work shall be made good. Unsuitable materials may be rejected, notwithstanding that such defective Work and materials have been previously overlooked by OC SAN'S REPRESENTATIVE and accepted or estimated for payment. When OC SAN'S REPRESENTATIVE indicates in writing to the DESIGN-BUILDER that any part of the Work does not comply with the Construction Documents, it shall be considered to be rejected. The DESIGN-BUILDER shall reimburse the cost of re-inspections for all disciplines performed by OC SAN'S REPRESENTATIVE as result of failures or lack of workmanship.

Requests from the DESIGN-BUILDER to perform Work on Saturdays, Sundays, OC SAN- recognized holidays, and/or outside the regular established eight (8) hour working day, require written notification to OC SAN'S REPRESENTATIVE seven (7) days prior to commencing such "overtime" work. DESIGN-BUILDER shall reimburse OC SAN by a credit Change Order for all additional expenses to OC SAN for inspection, testing services, and other incidental expenses caused by such overtime work elected by the DESIGN-BUILDER. The DESIGN-BUILDER shall complete and provide an "Overtime Request Form" to initiate the overtime request. Requested overtime work shall commence only upon approval by OC SAN'S REPRESENTATIVE. OC SAN recognizes the following holidays for the purposes of this General Requirement: New Year's Day, Martin Luther King Jr. Day, President's Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, the Day after Thanksgiving, Christmas Eve, and Christmas Day. Reimbursement to OC SAN for inspection overtime and expenses shall not be required for extra work or Work specifically required by the Contract to be performed outside the regular workday or on recognized holidays. Holidays that occur on Saturdays and Sundays will be observed on preceding Fridays and following Mondays, respectively.

Discontinuance of overtime work schedules elected by the DESIGN-BUILDER may be necessary, should OC SAN determine that Public/OC SAN interests are no longer served.

Projects financed in whole or in part with federal or state funds will be subject to inspection and audit by the federal and state agency involved.

GR-30 SUBMITTAL PROCEDURES

A. General

The DESIGN-BUILDER shall comply with the following general methods and requirements of submissions applicable to the Work-related submittals and related documentation including DESIGN-BUILDER-generated drawings, manufacturer's test procedures, test results, samples and product data, equipment service manuals, OC SAN personnel training plans, requests for substitutions, mobilization plan and all miscellaneous Work-related submittals.

The DESIGN-BUILDER shall submit to OC SAN'S REPRESENTATIVE all required shop drawings, and other Work related submittals in accordance with the General Requirements section entitled "Shop Drawing Submittals", and applicable individual Specifications sections. All submittals shall be endorsed by the DESIGNER OF RECORD to confirm that they conform to the Contract Requirement's. Where required by the

Construction Documents, submittals shall be for OC SAN'S REPRESENTATIVE'S review and acceptance. All other submittals shall be marked "for information only,"

All submittals by Subcontractors shall be sent to the DESIGN-BUILDER for review and endorsement by the DESIGNER OF RECORD prior to submittal to OC SAN'S REPRESENTATIVE. No submittals shall be forwarded directly to OC SAN'S REPRESENTATIVE by Subcontractors and/or the manufacturers. The DESIGN-BUILDER shall be responsible for Subcontractors' submissions at the proper time to prevent delays in delivery of materials.

Project Work, materials, fabrication, and installation shall conform to the accepted shop drawings, applicable samples, product data, and Construction Documents. Submittals found to be inaccurate, incomplete, or otherwise in error shall be returned to the CONTRACTOR for correction before submission thereof.

Resubmittals shall be required on all submittals until they are accepted by DESIGNER OF RECORD, in accordance with the General Requirements article entitled "Shop Drawing Submittals." A resubmittal must be submitted complete; a partial resubmittal shall not be accepted. For example, if a submittal contains thirty (30) pages but only five (5) pages have corrections, DESIGN-BUILDER shall resubmit the entire thirty (30) pages inclusive of the corrected pages.

Shop drawings and other submittals will be reviewed no more than twice at OC SAN's expense. All subsequent reviews will be performed at times convenient to OC SAN'S REPRESENTATIVE and at the DESIGN-BUILDER's expense, based on OC SAN'S REPRESENTATIVE's prevailing rates. The DESIGN-BUILDER shall reimburse OC SAN for all such fees invoiced by OC SAN'S REPRESENTATIVE.

Any need for more than one resubmission, or any other delay in obtaining OC SAN'S REPRESENTATIVE's review of submittals, will not entitle DESIGN-BUILDER to extension of the Contract Time.

The DESIGN-BUILDER shall submit for OC SAN'S REPRESENTATIVE's review and acceptance of the shop drawings and/or other Work-related submittals that result from an approved Change Order as defined in the General Conditions.

Submittals including product data for information only will not be subject to submittal review procedures. Such submittals shall be provided as part of the Work under this Contract and its acceptability shall be determined under normal inspection procedures.

B. Electronic Format/Submittal Identification System

The DESIGN-BUILDER shall submit all submittals electronically for review. Electronic submittals shall be in PDF format unless otherwise specified under individual specifications with security restrictions set to enable commenting so that OC SAN'S REPRESENTATIVE's comments can be added to the document using Bluebeam Revu. PDF files shall be searchable and include Bookmarks/Tabs identifying specific sections/sub-sections to separate each product and system. The DESIGN-BUILDER shall utilize a nine (9) character submittal identification number preceded by the Project or Contract number and followed by a submittal title in the following manner:

- Project number: The Project or Contract number.
- Specifications section number: The first five (5) digits shall be the applicable Specifications section number.
- Sequence number: The next three (3) digits shall be the numbers 001-999 to sequentially number each individual submittal that makes up the complete submittal for the Specifications section number.
- Revision letter: This character shall be a letter, A-Z, indicating the submission of that submittal, i.e., "A" for 1st submission, "B" for 2nd submission (first resubmission), "C" for 3rd submission (second resubmission), etc.
- Title: Submittal title or subject designated on the Submittal Transmittal Form. See "Submittal Transmittal" later in this General Requirements section.

Filename example, "P1-101_03300-008-B_Concrete_Mix_Design.pdf," where:

- "P1-101" indicates the Project or Contract number.
- "03300" indicates the related Specifications section number.
- "008" indicates this is the eighth (8) submittal under the related Specifications section; this also indicates that seven (7) other unique submittals have been provided for Specifications section 03300.
- "B" indicates the second submission (first resubmission) of that submittal.
- "Concrete_Mix_Design" indicates the submittal title. Capitalize each word in the submittal title and separate each word with an underscore "_" character.

C. Uploading Submittals

The DESIGN-BUILDER shall upload all electronic submittals for transfer to location designated by OC SAN staff. DESIGN-BUILDER shall provide notification to OC SAN that electronic submittal has been provided.

D. Hard Copy Format

Unless otherwise specified, the DESIGN-BUILDER shall provide one (1) hard copy for each finalized submittal with a "ACCEPTED" status. Some submittals, for example Specifications section 02270, Stormwater Pollution Prevention Plan and Contractor Safety Standards, may require additional hard copies during their submittal process which will be detailed in those Specifications.

Shop drawings and product data sheets 11-inch x 17-inch and smaller shall be bound together in an orderly fashion. Submittals shall be assembled using screw post binding/Chicago screws.

Each submittal assembly shall include tabbed sheets to separate each product and system, with typed description of product and major component parts. When multiple binders are used, correlate data into related groupings.

E. Submittal Transmittal

Each submittal shall be accompanied by a dedicated transmittal signed by the DESIGN-BUILDER and endorsed by the DESIGNER OF RECORD. OC SAN will provide DESIGN-BUILDER a sample transmittal following Notice to Proceed. If the DESIGN-BUILDER proposes to provide material, equipment, or method of Work which deviates from the Construction Documents, the DESIGN-BUILDER shall indicate so under "deviations" on the Submittal Transmittal Form accompanying the submittal copies.

GR-31 SHOP DRAWING SUBMITTALS

A. General

Shop drawings are drawings, diagrams, illustrations, schedules, performance charts, brochures, and other data that are prepared by the DESIGN-BUILDER, DESIGNER OF RECORD, Subcontractors, manufacturers, Suppliers, and/or distributors, and which illustrate some portion of the Work. Additional examples of shop drawings include custom-prepared data such as fabrication and erection/installation (working) drawings, detailed design calculations, lists, graphs, scheduled information, setting diagrams, actual shopwork manufacturing instructions, operating instructions, custom templates, special wiring diagrams, coordination drawings, individual system or equipment inspection and test reports including performance curves and certifications as applicable to the Work.

B. Shop Drawing Review

Shop drawing submittals shall contain sufficient storage, installation, operation and maintenance information to allow OC SAN'S REPRESENTATIVE to confirm compliance with the manufacturer's recommendations during the storage, installation, startup and testing of the equipment. Such information shall also be sufficient for review of the equipment regarding operation and maintenance requirements for the equipment after it is in service.

The DESIGN-BUILDER shall review, mark with DESIGN-BUILDER's approval, and submit for OC SAN'S REPRESENTATIVE's review and acceptance, the shop drawings as called for in the Construction Documents, and as requested by OC SAN'S REPRESENTATIVE. Shop drawings not required by the Construction Documents to be submitted for OC SAN'S REPRESENTATIVE's review and acceptance shall be submitted to the DESIGNER OF RECORD for review and acceptance and shall be submitted to OC SAN'S REPRESENTATIVE, marked "for information only" after acceptance by the DESIGNER OF RECORD. All such shop drawings shall include confirmation of acceptance by the DESIGNER OF RECORD.

Shop drawings shall show the name of the Project, the DESIGN-BUILDER, and, if any, the names of Suppliers, manufacturers and Subcontractors. Shop drawings shall be submitted in a prompt and orderly sequence to not cause any delay in prosecution of the Work.

Each shop drawing submittal shall include the submitted Specifications section, with addendum updates included, and all referenced and applicable sections, with each paragraph check marked to indicate specification compliance or marked to indicate requested deviations from specification requirements. Check marks shall denote full compliance with a paragraph as a whole. If deviations from the Specifications are indicated, and therefore requested by the DESIGN-BUILDER, each deviation shall be underlined and denoted by a number in the margin to the right of the identified paragraph, referenced to a detailed written explanation of the reasons for requesting the deviation. OC SAN'S REPRESENTATIVE shall be the final authority for determining acceptability of requested deviations. The remaining portions of the paragraph not

underlined will signify compliance on the part of the DESIGN-BUILDER with the Specifications. Failure to include the marked-up Specifications section, along with justification(s) for any requested deviations to the specification requirements, with the submittal shall be sufficient cause for rejection of the entire submittal with no further consideration.

C. Shop Drawing Review Period

Within twenty-five (25) calendar days after receipt of a shop drawing submittal, OC SAN'S REPRESENTATIVE will return comments, if any, to the DESIGN-BUILDER to include an electronically signed transmittal with submittal stamp. When a submittal is of a complete system, complex piece of equipment, or deemed necessary by OC SAN'S REPRESENTATIVE, OC SAN'S REPRESENTATIVE shall extend the shop drawing review period to thirty-five (35) calendar days. OC SAN will notify DESIGN-BUILDER on the occasions where the longer review time is required. OC SAN'S REPRESENTATIVE will work with the DESIGN-BUILDER to define those submittals that would require the extended return date. For shop drawing submittals that are of a complete system or a complex piece of equipment, the DESIGN-BUILDER shall provide a meeting, prior to submitting the shop drawings, to review the requirements and a second meeting to discuss OC SAN'S REPRESENTATIVE's comments to submitted shop drawings. DESIGN-BUILDER's Supplier's / manufacturer's engineer or staff involved in developing the shop drawings shall participate in the meetings. Examples of complete systems and complex pieces of equipment include:

- Packaged odor control systems
- Packaged HVAC systems
- Electrical/I&C Control Panels
- Switchgear
- Engineered mechanical equipment - pumps, grinders, bar screens, blowers, clarifier drives, etc.

Submittals received after 3 pm Monday through Thursday shall be processed the next business day. Submittals received on Friday shall be processed the following Monday or the next business day.

D. Shop Drawing Submittal Return Status

Along with submittal comments, a submittal shall be returned with a status as defined below:

- ACCEPTED
- ACCEPTED AS NOTED
- REVISE AND RESUBMIT

If the submittal is returned to the DESIGN-BUILDER marked "ACCEPTED," the submittal is in general conformance with the design concept of the Project and general compliance with the Construction Documents. Prior to receiving an "ACCEPTED" response for equipment and material drawings, any Work which the DESIGN-BUILDER may do on fabrications covered by the same shall be at DESIGN-BUILDER's own risk, as OC SAN will not be responsible for any expense incurred by the DESIGN-BUILDER for changes needed to make the same conform to all Contract requirements.

If the submittal is returned to the DESIGN-BUILDER marked "ACCEPTED AS NOTED," the DESIGN-BUILDER shall incorporate all comments and, within thirty (30) days from the return of the submittal, resubmit the complete shop drawing(s). The complete shop drawing(s) shall be resubmitted in its entirety, to include a copy of the DESIGN-BUILDER's responses to all comments received on the submittal series designated with the next revision letter in accordance with the General Requirements section entitled "Submittal Procedures." If the thirty (30) day turnaround timeline is not met, OC SAN'S REPRESENTATIVE will change the status of the submittal to "REVISE AND RESUBMIT." No payment for facilities constructed and/or installed will be made until the final submittal has received an "ACCEPTED" response.

A submittal returned to the DESIGN-BUILDER marked "REVISE AND RESUBMIT" implies the submittal contained some of the required information and generally meets specified requirements; however, there was a significant amount of missing or illegible information, errors on multiple documents, or a significant amount of comments were made such that the entire packet needs to be resubmitted and reviewed again. A "REVISE AND RESUBMIT" response does not mean the entire submittal was reviewed and all possible comments have been provided.

A submittal returned to the DESIGN-BUILDER without status implies the DESIGN-BUILDER has either submitted an item that is significantly not per specifications, the submittal lacked even the bare minimum of information to begin a review, or there were significant errors or illegible information provided within the submittal.

If the submittal is returned to the DESIGN-BUILDER marked with no status or "REVISE AND RESUBMIT," the DESIGN-BUILDER shall correct the shop drawings to conform to OC SAN'S REPRESENTATIVE's comments and resubmit. The complete shop drawing(s) shall be resubmitted in its entirety to include a copy of the DESIGN-BUILDER's responses to all comments received on the submittal series, designated with the next revision letter in accordance with the General Requirements section entitled "Submittal Procedures."

The review by OC SAN'S REPRESENTATIVE is only to determine general conformance with the design concept of the Project and general compliance with the Construction Documents. The review shall not be construed as relieving the DESIGN-BUILDER of the full responsibility for the following: providing materials, equipment, and Work required by the Contract; proper fitting and construction of the Work; accuracy and completeness of the shop drawings; selection of fabrication processes and techniques of construction; and performance of the Work in a safe manner.

No portion of the Work requiring a shop drawing submittal shall be commenced until the submittal has been reviewed by OC SAN'S REPRESENTATIVE and returned to the DESIGN-BUILDER with a notation indicating "ACCEPTED" or "ACCEPTED AS NOTED" where the noted comments do not affect the Work for which DESIGN-BUILDER is commencing.

If the DESIGN-BUILDER believes that any shop drawing or communication relative thereto calls for changes in the Work for which the Contract Amount or time or completion should be changed, the DESIGN-BUILDER shall immediately notify OC SAN'S REPRESENTATIVE and request a Change Order in accordance with the General Conditions and General Requirements.

E. DESIGN-BUILDER Approval

The DESIGN-BUILDER shall obtain and review the manufacturer's shop drawings and other pertinent data for conformance with all requirements of the Construction Documents prior to forwarding submittals to OC SAN'S REPRESENTATIVE for review. The DESIGN-BUILDER, at its sole expense, shall make any necessary changes in the shop drawings to make them conform to the Construction Documents. After completion of the review, verification and revisions, the DESIGN-BUILDER shall stamp and sign the shop drawings indicating compliance with the Construction Documents and the DESIGN-BUILDER's approval. The DESIGN-BUILDER shall submit all shop drawings and pertinent data for all equipment and material to the OC SAN'S REPRESENTATIVE for acceptance no later than at fifty (50) percent completion of the Contract.

F. Field Measurements and Data Sheets

All details on shop drawings submitted for review and acceptance shall show clearly the relation of the various parts to the main members and lines of the structure, and, where correct fabrication of the Work depends on field measurements, such measurements shall be made and noted on the drawings before being submitted to DESIGNER OF RECORD for review and acceptance.

Shop drawings for all equipment and materials proposed for the Work shall be submitted with a data sheet(s). Specific model numbers of equipment submitted shall be identified on all data sheets. If the data sheet(s) format is not acceptable to OC SAN'S REPRESENTATIVE, OC SAN'S REPRESENTATIVE will provide the required sheet format to the DESIGN-BUILDER. Data sheet(s) should include as a minimum the following:

For Material:

- Brand names
- Manufacturer
- I.D. Plate – Product No., etc.
- Specifications section
- Intended use of product, locations where the submitted materials will be used, etc.

For Equipment:

- Brand name and manufacturer
- I.D. Plate – Product No., etc.
- Packager, assembler, or supplier
- Specifications section
- Intended use of product, locations where the submitted equipment will be used, OC SAN equipment numbers, etc.

Electrical or Fuel-driven Equipment:

- i. Motor or driver nameplate data
- ii. Equipment designation, size, capacities, etc.
- iii. Accessories

Non-powered Equipment:

- iv. Size
- v. Special features

Control, Metering and Electrical:

- vi. Material list
- vii. Special features

Refer to the individual Specifications sections regarding applicable licensing, certifications and/or Professional Engineer's signed stamps to be included with each respective item submittal.

Refer to the section entitled "Material and Equipment" of these General Requirements regarding proposed substitutions.

G. Spare Parts

Shop drawing submittals for all equipment requiring maintenance or consumables shall include a manufacturer's recommended spare parts list. Unless specifically indicated otherwise, spare parts shall not be provided by the DESIGN-BUILDER. Spare parts will be purchased by OC SAN as necessary based on the lists provided by the equipment Suppliers. The list shall include the part manufacturer's name and part number. All equipment in the Contract supported by each part shall be identified.

GR-32 SUPPLEMENTAL DRAWINGS AND INSTRUCTIONS

A. Clarification of the Design

After the award or during the progress of the Work, if it appears that the Work to be done or any matter relative thereto requires additional explanation, the DESIGN-BUILDER shall request further explanation from the DESIGNER OF RECORD. The DESIGNER OF RECORD will furnish, by means of drawings or written clarification, such additional instructions as are required for clarification or proper execution of the Work. All such instructions shall be consistent with the Contract and reasonably inferable therefrom.

All instructions issued by the DESIGNER OF RECORD to the DESIGN BUILDER shall be submitted to OCSAN's REPRESENTATIVE in conformance with the requirements of GR 30. The DESIGN BUILDER shall not make any change to the Work as a result of such instructions until they have been reviewed by OCSAN's REPRESENTATIVE.

All drawings and revisions issued by the DESIGNER OF RECORD and delivered to the DESIGN- BUILDER after execution of the Contract shall be deemed written instructions to the DESIGN- BUILDER. The DESIGN-BUILDER shall comply with such written instructions as part of the Contract. The DESIGN BUILDER shall not be entitled to any change in the Guaranteed Maximum Price as a result of complying with such written instructions.

All authorized alterations affecting the requirements and information given on the drawings and revisions issued by the DESIGNER OF RECORD shall be in writing. No changes shall be made on any plan or drawing after the same has been reviewed by OC SAN'S REPRESENTATIVE, unless such changes are authorized by OC SAN'S REPRESENTATIVE in writing.

B. Other Changes

If OC SAN'S REPRESENTATIVE requests in writing a change to the Work, either as a discretionary change or due to changes directed by a Governmental Body with jurisdiction over the Project, or portions thereof, or changes necessitated by amendment(s) to or enactment(s) of Applicable Laws, the DESIGN-BUILDER shall request the DESIGNER OF RECORD to prepare such drawings or other written clarification as are necessary for the execution of the change. All such instruction and written clarification shall be submitted to OCSAN's REPRESENTATIVE in conformance with the requirements of GR 30. The DESIGN BUILDER shall not make any change to the Work as a result of such instructions until they have been reviewed by OCSAN's REPRESENTATIVE.

If the DESIGN-BUILDER believes that a change requested by OCSAN'S REPRESENTATIVE could not reasonably have been foreseen by the DESIGN BUILDER at the execution of the GMP and are not due to any cause for which an increase in the GMP is not permitted, then the DESIGN BUILDER shall notify OCSAN's REPRESENTATIVE in accordance with the Change Order procedures of the General Conditions of Contract.

No payment or extension of time for changes in the Work will be made unless the changes are issued in a fully executed Change Order in advance of the DESIGN-BUILDER's proceeding with the changed Work.

GR-33 EQUIPMENT AND INSTRUMENT DATABASE

For the Equipment and Instrument Database (EID) requirements, refer to the respective Specification section.

GR-34 AS-BUILT DRAWINGS

A. General

The DESIGN-BUILDER shall track changes from the original Plans by marking a set of Plans to show deviations made during construction. This full-size set of As-Built Drawings, including Subcontractor sections, shall be maintained in the DESIGN-BUILDER's office, clean and dry, shall be legibly marked up and labeled, and shall be available for inspection during normal working hours.

OC SAN reserves the right to withhold all progress payments, or any portion thereof, until all As- Built Drawings are brought up to date and accepted.

B. Required Markings

All changes to the facilities depicted on the Plans.

1. Formal changes resulting from Change Orders, Requests for Information (RFI), and/or Bulletins.
2. Informal, no cost changes and corrections requested or accepted by OC SAN's REPRESENTATIVE.
3. DESIGN-BUILDER survey results correcting or enhancing data shown on the plans such as for underground piping, curb, gutter and road surfaces.
4. Changed and/or corrected dimensions, structural members, pipe sizes, designations, etc.
5. Changed and/or corrected tag, circuit, location numbers, and text, and all other designations and codes.
6. Details not in the original Construction Documents.

Final locations of all facilities installed in the Work.

1. Revised pipeline alignment and invert elevations.
2. Revised manhole invert elevations including all laterals.

Actual locations of all existing underground facilities shown on the Plans and/or discovered in work excavations.

1. Underground or embedded piping, conduit, and structures shown without dimensions.
2. Pipe and conduit fittings and changes of direction, size, embedment, or material.
3. Depths of various elements of foundation in relation to finish first floor datum.
4. Horizontal and vertical locations of underground and under slab utilities and appurtenances, referenced to permanent surface improvements.
5. Location of internal utilities and appurtenances referenced to visible and accessible features of the structure.

References to related Change Order, RFI and/or Bulletin at affected details. Explanatory comments informal changes where the cause is significant but not obvious.

C. Marking Content and Format

As-built markings shall be legible, accurate, and explicit in presenting all changes from what is shown on the Plans. A draftsman should be able to revise the Plans from the markings and supporting drawings.

1. Mark all changes, corrections and new data in red erasable pencil. Notes describing changes, such as indicating the relocation of a component on a schematic drawing with an arrow from the initial and final locations and "move", should also be in red erasable pencil.

2. All explanatory notes and comments shall be clearly printed in black ink. Cross out ink errors.
3. Changes and corrections to dimensions and other text shall consist of lining out the original data and adding the revised data adjacent to it in red pencil.
4. The location of underground facilities shall be precisely dimensioned regardless of whether dimensions were included on the original Plans.
 - Survey data shall use Project grid and datum.
 - Existing underground features shall be dimensioned to nearest inch or surveyed.
 - Show actual measured dimensions, not calculated values.
 - Angle points and surfaces shall be dimensioned relative to substantial aboveground structures in the vertical and two horizontal planes.
 - Existing piping crossing an excavation shall be location dimensioned at both ends of its crossing and at angle points.

Major changes to the As-Built Drawings may be rendered by inserting new drawings or sketches into the As-Built Drawing set. New drawings are generally created through a Change Order or in response to a RFI or Bulletin.

1. Insert each revised plan drawing into the As-Built Drawing set in front of the superseded drawing, including all relevant RFIs, Bulletins and Change Orders.
2. Sketches or revised details shall be attached to the parent drawing over or next to the original detail or to the back of the preceding sheet in the As-Built Drawing set.
 - Reduce details by no more than 50 percent. All writing shall be legible.
 - Where marked changes are crowded, attach small sheets to add more detail.
 - Do not obscure valid details with attached sheets.
 - Attach at top edge with tape so sheet may be lifted to see covered details.
 - Use a small amount of tape at the bottom edge to control flapping if necessary.
 - a. Every attached drawing shall reference its affected detail(s)
 - b. Every affected detail shall reference all drawings modifying it. (e.g., – “See CO #3, SK-2”)

Draw new, relocated, and realigned facilities approximately to scale unless location can be indicated by modifying existing dimensions.

- c. Use a straightedge and circle template or compass to draw facility outlines.
- d. Show relative size and locations of all installed panels.
- e. Cloud the affected area on the drawings with a red pencil and note the RFI, Change Orders, or Bulletin number.

D. Update and Review of As-Built Drawings

Update drawings within two (2) weeks of the completion of changed Work. For example, for concrete placed different from that indicated on the Plans, the As-Built Drawings shall be marked with the actual sizes and locations within two (2) weeks after removing the forms.

As-Built Drawings will be inspected monthly. The DESIGN-BUILDER shall request in writing a recurring monthly meeting with OC SAN'S REPRESENTATIVE to initial all informal changes. All other changes will be referenced to a Change Order, RFI, and/or Bulletin. OC SAN'S REPRESENTATIVE will review the DESIGN-BUILDER's As-Built Drawings prior to progress payment submittal.

At the completion of the Work, the DESIGN-BUILDER shall request in writing a meeting with OC SAN'S REPRESENTATIVE to inspect the DESIGN-BUILDER's As-Built Drawings prior to their final submittal. The As-Built Drawings will be inspected by OC SAN'S REPRESENTATIVE and comments, if any, will be provided to DESIGN-BUILDER. After all comments have been addressed, the As-Built Drawings shall be turned over to OC SAN.

E. Preparation of Record Drawings

The DESIGN BUILDER shall submit the Draft Record Drawings to OC SAN within 90 calendar days of receipt of comments on the As-Built Drawings from OC SAN REPRESENTATIVE. The final Record Drawings shall be submitted within 28 calendar days of receipt of OC SAN's comments on the Draft Record Drawings.

The DESIGN BUILDER shall prepare Draft Record Drawings based on the final as-built drawings for all drawings in accordance with the requirements in the CAD Manual. Traffic control plans, temporary bracing of shoring and shop drawings will not be updated. The DESIGN BUILDER shall submit the Draft Record Drawings to OC SAN'S REPRESENTATIVE. The Draft Record Drawings will be reviewed for content and CAD compliance by OC SAN staff. A comment log will be returned to the DESIGN BUILDER and, if any comments are generated, the DESIGN BUILDER shall revise the Record Drawings and resubmit to OC SAN'S REPRESENTATIVE for review of the changes and acceptance of the Record Drawings.

When no additional comments are identified, the DESIGN BUILDER shall prepare the Final Record Drawings and submit them in accordance with the OC SAN CAD Manual Chapter 12. All Record Drawings shall contain a stamp indicating:

"Record Drawings

These record drawings have been prepared based on information provided by others. The Designer of Record has not verified the accuracy of this information and shall not be responsible for any errors or omissions which may be herein as a result."

The stamp shall be placed in the title block and may be included by x-ref. In addition, a note shall be placed over the engineer's seal stating that "This drawing was originally approved for construction by [name of engineer] on [date] and sealed by [name of engineer] a licensed professional engineer in the State of California No. [License number]. The DESIGN BUILDER shall submit an electronic copy of the Record Drawings to OC SAN'S REPRESENTATIVE for review and acceptance. Acceptance of Record Drawings shall be required before release of final payment.

The format and quantities for delivery of the submittals shall be as listed below:

Contents	Draft Record Drawings	Final Record Drawings
Hard Copy Sets	None	None
All related electronic files, including CAD and compiled PDFs	Transmit Electronic Files to OC SAN	Transmit Electronic Files to OC SAN

GR-35 METHODS AND APPLIANCES

The methods, equipment, appliances and working force employed by the DESIGN-BUILDER shall be such as will secure Work of acceptable quality and sufficient to complete the Work in the time agreed upon.

The OC SAN'S REPRESENTATIVE may order, in writing, the DESIGN-BUILDER to improve, change or increase such methods, equipment, appliances or force, which the OC SAN'S REPRESENTATIVE deems to be inadequate or insufficient. Failure of the OC SAN'S REPRESENTATIVE to make such an order shall not relieve the DESIGN-BUILDER from the obligation to perform the Work in accordance with the Construction Documents and within the required time.

GR-36 SURVEY

A. General

All Work under this Contract shall be built in accordance with the lines, grades, tolerances and materials and equipment requirements as shown on the Construction Documents. Distances and measurements, except elevations and structural dimensions are given and made on horizontal planes. Although measurement, sampling, and testing may be considered evidence as to conformity, OC SAN'S REPRESENTATIVE shall be the sole judge as to whether the Work or materials deviate from the Construction Documents and will require that decision as to any allowable deviations be approved by the DESIGN MANAGER.

DESIGN-BUILDER shall notify OC SAN'S REPRESENTATIVE, in writing, a minimum of forty-eight (48) hours prior to needing OC SAN provided survey work described herein.

B. Treatment Plant Work.

All controls, lines, and grades necessary for the accurate construction of the Work under this Contract, except the basic reference line and benchmark, shall be furnished by the DESIGN-BUILDER at DESIGN-BUILDER's expense. Only a land surveyor licensed in the State of California shall be employed for this Work. Monuments for principal control points shall be set by the DESIGN-BUILDER and shall be protected by the DESIGN-BUILDER from disturbance. If the monuments are disturbed, any Work that is governed by these monuments shall be held in abeyance until the monuments are reestablished by the DESIGN-BUILDER and accepted by DESIGN-MANAGER. The accuracy of all the DESIGN-BUILDER's stakes, alignments and grades is the responsibility of the DESIGN-BUILDER. However, OC SAN'S

REPRESENTATIVE has the discretionary right to check the DESIGN-BUILDER's stakes, alignments, and grades at any time. Where such discretion is to be exercised by OC SAN'S REPRESENTATIVE, OC SAN'S REPRESENTATIVE will notify the DESIGN-BUILDER of DESIGN-BUILDER's intention, stating the time at which the checking will commence. Any part of the Work in progress, the results of which are predicated directly upon the DESIGN-BUILDER's stakes, alignments, or grades to be checked, shall be held in abeyance until OC SAN'S REPRESENTATIVE has notified the DESIGN-BUILDER that the checking has been completed and the Work has been found to be in accordance with the Construction Documents.

C. Trunk line Work. Outside Treatment Plant Boundaries.

DESIGN-BUILDER shall provide offset line and grade stakes at ground level and will furnish cut sheets therefor. The DESIGN-BUILDER shall be responsible for transfer of such offset line and grade into the trench for construction of the Work and for the accuracy of such transfer. Cost of such transfer shall be included in the unit prices Bid for the Work and no extra compensation will be made. The DESIGN-BUILDER shall survey the pipeline alignment and invert elevation daily to verify installed tolerances. If the installed pipeline does not meet the tolerances specified in the applicable pipeline Specifications section controlling the Work, DESIGN-BUILDER shall notify the OC SAN'S REPRESENTATIVE immediately.

D. Preservation of Survey Work.

The DESIGN-BUILDER shall preserve benchmarks, survey stakes, and points set for lines, grades, or measurement of the Work in their proper places until authorized by the OC SAN'S REPRESENTATIVE to remove them. In the case of their destruction or removal by the DESIGN-BUILDER, employees, or agents, they shall be replaced by the OC SAN'S REPRESENTATIVE at the DESIGN-BUILDER's expense. The DESIGN-BUILDER and the sureties shall be liable therefor.

GR-37 CONSTRUCTION ACCESS AND COORDINATION

A. Access

During the construction period, the DESIGN-BUILDER will have use of the premises as directed by the OC SAN'S REPRESENTATIVE. OC SAN reserves the right and may undertake or award other contracts for additional Work on or near the Worksite. The DESIGN-BUILDER warrants that it has carefully reviewed the Construction Documents and all other pertinent information made available by OC SAN that relate to the nature and scheduling of other contracts that may be awarded and to constraints related to OC SAN operations, and in submitting its Bid and executing this Contract has taken into account the need to coordinate its Work with that of other DESIGN-BUILDER's and/or OC SAN Operations. It is the express obligation and duty of the DESIGN-BUILDER under the Contract to coordinate its Work with the work of others.

The following shall apply:

- The DESIGN-BUILDER shall not have exclusive access to or use of Work areas or the Work site. OC SAN may require that DESIGN-BUILDER use certain facilities and areas concurrently with others.

- OC SAN will endeavor to advise the DESIGN-BUILDER of the known others, including OC SAN Operations.
- DESIGN-BUILDER shall cooperate and communicate with any other contractor performing work that may connect, complement, and/or interfere with the DESIGN-BUILDER's Work and resolve any disputes or coordination problems with such DESIGN-BUILDER.

B. General Coordination

The DESIGN-BUILDER shall be responsible for coordinating any work carried on in the construction worksite by other parties or by OC SAN simultaneously with the construction Work for this Project. The DESIGN-BUILDER shall include as part of its GMP any costs that might be incurred as a result of coordinating the Work for this Project with such other work. In no case shall the DESIGN-BUILDER be entitled to additional compensation from OC SAN for damages suffered as a result of work being carried on in the construction worksite by other parties or by OC SAN simultaneously with the construction Work for this Project. However, if such work results in a delay to the DESIGN-BUILDER's Work, the DESIGN-BUILDER may be entitled to an extension of time as specified in the General Conditions, Extension of Time for Delay.

C. Coordination Between OC SAN Contractors

When two or more OC SAN contractors are employed in related or adjacent work, each shall conduct work operation in such a manner as not to cause any delay or hindrance to the other. OC SAN will not be responsible for damage caused by such delays, but where such a delay, in the opinion of the OC SAN'S REPRESENTATIVE, is of such a nature that it could not have been prevented by a reasonable amount of cooperation on the part of the DESIGN-BUILDER, then the DESIGN-BUILDER may be entitled to an extension of time for completion of the Work as specified in the General Conditions, Extension of Time for Delay. The DESIGN-BUILDER shall afford other contractors' reasonable opportunity for the introduction and storage of their materials and the execution of their work and shall properly coordinate its Work with theirs.

Nothing in this section shall be construed as relieving the DESIGN-BUILDER of the full responsibility for completing the Work in its entirety, for making good defective Work and materials, for protecting the Work from damage, for being responsible for damage, or for the Project as set forth in the General Conditions and General Requirements and other Construction Documents. No action undertaken by OC SAN under this section shall be deemed complete and acceptable, and such action shall not relieve the DESIGN-BUILDER, sureties, or insurers of the provisions of the Construction Documents relating to DESIGN-BUILDER's insurance, indemnity, or guarantees.

D. Coordination Between OC SAN DESIGN-BUILDER and Others or their Contractors

The DESIGN-BUILDER shall coordinate the Work and cooperate with others, their contractors or workers operating on or adjacent to the worksite. In this respect, other parties, their contractors or workers shall have the right to enter upon the streets or rights-of-way for the purpose of performing their operations.

Where contractors or workers employed by other agencies are employed in related or adjacent work in, or in the vicinity of, the construction areas for this Project, and where such work on the part of said parties results in a delay of the DESIGN-BUILDER's Work, and where such a delay in the opinion of OC SAN'S REPRESENTATIVE, is of such a nature that it could not have reasonably been foreseen or anticipated by the DESIGN-BUILDER in time to take steps to prevent same, then the DESIGN-BUILDER may be entitled to an extension of time for completion of the Work as specified in the General Conditions, Extension of Time for Delay.

E. Coordination Between OC SAN DESIGN-BUILDER and OC SAN Employees

When OC SAN employees are engaged in work on or adjacent to the DESIGN-BUILDER's worksite, the DESIGN-BUILDER shall cooperate with OC SAN in coordinating Project Work with the work being performed by OC SAN employees and shall conduct operations in such a manner as not to cause any delay or hindrance to the work being performed by said OC SAN employees. In instances such as this, OC SAN will cooperate fully with the DESIGN-BUILDER to prevent any delay or hindrance in the DESIGN-BUILDER's Work. Should the work being performed by OC SAN employees result in a delay to the DESIGN-BUILDER's Work, and should the delay, in the opinion of OC SAN'S REPRESENTATIVE, be of such a nature that it could not have been prevented by a reasonable amount of cooperation on the part of the DESIGN-BUILDER, then the DESIGN-BUILDER may be entitled to an extension of time as specified in the General Conditions, Extension of Time for Delay.

E. Reports to OC SAN

If any part of the DESIGN-BUILDER's Work depends on the work of any other contractor or OC SAN for proper execution or results, prior to proceeding with its own Work, DESIGN-BUILDER shall promptly inspect and immediately, and in no event later than forty-eight (48) hours from when such work was made available to DESIGN-BUILDER, notify OC SAN'S REPRESENTATIVE of any discrepancies, or defects or failures to perform or complete said other work that would preclude or hinder the proper execution or achievement of the DESIGN-BUILDER's Work. Failure to inspect and report such defects shall constitute an acceptance of the other contractor's work as fit and proper for the reception of the work, except as to latent defects in the other contractor's work. Further, any delays by the DESIGN-BUILDER in inspecting and/or reporting any defects in such work that results in delays to the DESIGN-BUILDER's Work shall be the sole responsibility of the DESIGN-BUILDER and OC SAN will not be liable for any resulting delays and/or damages.

Where DESIGN-BUILDER's Work depends on access to any premises or right of ways that are (a) outside the construction areas for the Project, or (b) otherwise in use by other contractors or workers employed by other agencies, DESIGN-BUILDER shall provide written notice to OC SAN of its need for such access, the date when such access is needed and the expected duration of access needed to prosecute its Work. Such written notice shall be provided to OC SAN no later than thirty (30) days prior to DESIGN-BUILDER's expected access date.

G. Coordination Meetings

The DESIGN-BUILDER shall attend such meetings and conferences, including a pre-construction meeting, arranged by OC SAN for the purpose of coordinating the Work.

GR-38 PLANT ACCESS ROADS

The DESIGN-BUILDER shall not block any access roads or entrances unless otherwise accepted by OC SAN'S REPRESENTATIVE. Under all circumstances, at least one-way traffic shall be maintained. The DESIGN-BUILDER shall provide all signs, traffic cones, flagman and other barriers for traffic detours.

Plant emergency access routes as shown on the Construction Documents shall remain open at all times. DESIGN-BUILDER shall not excavate, store equipment, or otherwise restrict access for emergency vehicles on emergency routes. When Work is required in emergency routes, DESIGN-BUILDER shall provide necessary traffic control, including flagmen, to provide emergency access. Emergency routes shall be immediately restored and paved when Work is finished.

DESIGN-BUILDER shall submit a plan to OC SAN'S REPRESENTATIVE within thirty (30) days of the Notice to Proceed to maintain emergency access and operator access to all operating facilities during construction for review. As circumstances and conditions change, the DESIGN-BUILDER shall submit revised access plans to the OC SAN's REPRESENTATIVE.

GR-39 RIGHT-OF-WAY

The right-of-way for the facility to be constructed will be provided by OC SAN as shown on the Construction Documents. The DESIGN-BUILDER shall make arrangements and pay all expenses for additional area required by the DESIGN-BUILDER outside the limits of the right-of-way unless otherwise specified in the Construction Documents.

Where rights-of-way are on public property, they shall be subject to the work permits to be issued by the proper public agencies. Work permits are to be obtained by the DESIGN-BUILDER at the DESIGN-BUILDER's expense except as provided herein.

In case of serious interference to the Work due to OC SAN delay in furnishing rights-of-way or easements necessary for the construction, the DESIGN-BUILDER will be allowed an extension of time to complete the Contract which is equal to the time lost by OC SAN delay. OC SAN shall not be liable for any damages, including but not limited to damage for expenses, overhead or extended overhead, resulting from such delay.

GR-40 CONCURRENT WORK UNDER SEPARATE CONTRACT

OC SAN may award separate contracts for products and installation for other work as may be indicated on the Drawings and in the Specifications as "Not in Contract", "NIC", "Future" or "Under Separate Contract".

OC SAN will make available, in a timely manner, drawings and specifications of work under separate contracts for coordination and further description of that work. If

available, such information will include drawings, specifications, product data, lists and construction schedules for such work. Information concerning work under separate contracts or to be done directly by OC SAN will be provided for convenience only and shall not be considered Construction Documents even if included with Construction Documents.

GR-41 REMOVAL OF DEFECTIVE AND UNAUTHORIZED WORK

Defective Work or unsuitable materials and/or equipment may be rejected, even though such defective items may have been previously overlooked by OC SAN'S REPRESENTATIVE. All Work which does not conform to the requirements of the Construction Documents shall be remedied or removed and replaced by the DESIGN-BUILDER in a manner acceptable to OC SAN'S REPRESENTATIVE. No compensation will be allowed the DESIGN-BUILDER for such removal or replacement. Any Work done beyond the lines and grades shown on the Plans, or any extra work done without written authority of OC SAN'S REPRESENTATIVE will be considered as unauthorized and no compensation shall be made therefor. All nonconforming materials shall be immediately removed from the site.

Any defective or imperfect material or workmanship which may be discovered within the warranty period shall be corrected immediately by DESIGN-BUILDER upon receipt of notice thereof from OC SAN. All such corrections of defective or imperfect material or workmanship shall be made by the DESIGN-BUILDER without extra charge, notwithstanding that it may have been overlooked in previous inspections and estimates and the Work finally accepted by OC SAN.

If the DESIGN-BUILDER fails to comply with any order of OC SAN'S REPRESENTATIVE made under the provisions of this section, OC SAN shall have the authority to cause defective Work to be remedied, or removed and replaced, and any unauthorized work to be removed by OC SAN forces, or otherwise, and to deduct the costs thereof from any monies due or to become due the DESIGN-BUILDER, or to bring suit against the DESIGN-BUILDER and the DESIGN-BUILDER's sureties for money damages sustained by OC SAN or for specific performance of the contractual obligations of the DESIGN-BUILDER.

GR-42 RESTORATION OF SURFACES

All curbs, gutters, driveways, paving, sidewalks, and similar structures which are broken or damaged by the installation of the Work shall be reconstructed by the DESIGN-BUILDER. Reconstruction shall be of the same kind of material with the same finish, and in not less than the same dimensions as the original Work.

Repairs shall be made by removing and replacing entire portions between joints or scores and not merely refinishing the damaged part. All Work shall match the appearance of the existing improvements as nearly as possible. Where asphalt pavement is disturbed and replaced, edges of existing pavement shall be saw cut back far enough to provide clean solid vertical surfaces before resurfacing material is placed.

GR-43 FINAL CLEANUP

Before Final Completion, the DESIGN-BUILDER shall remove all rubbish, excess materials, and concrete forms, and shall dismantle and remove the following:

- DESIGN-BUILDER's equipment.
- Temporary construction power and other utilities, communications facilities, lighting, work and storage yard, and site offices.
- On-site sanitary facilities and potable water facilities.
- DESIGN-BUILDER's work and storage yard, and site offices, furnishings and office equipment, parking, demarcation fencing in the staging area, plants, temporary buildings and structures, and other construction facilities.
- Temporary facilities used during construction, and access and security features including, but not limited to, site fencing, construction access gate and access security systems, security guards, guard stations and traffic guards.
- Posted OSHA-required notices and Project signs.

All parts of the Work shall be left in a neat and presentable condition. Excess mounds of earth shall be removed from the site. Ruts and depressions shall be filled and graded to drain in a manner to make the appearance of the completed Work acceptable to OC SAN'S REPRESENTATIVE.

The DESIGN-BUILDER shall maintain all interiors of buildings and structures in broom-sweep clean condition at all times during construction of buildings and structures. Upon enclosing the buildings and/or structures and installation of process equipment, interior finishes and/or fixtures, the DESIGN-BUILDER shall maintain the buildings and structures in mop-clean or vacuum-clean condition.

The DESIGN-BUILDER shall provide for a professional cleaning service to clean, dust, sanitize as necessary, and provide a mop-clean or vacuum-clean condition for the completed Project and, in particular, in all offices, control rooms, restrooms, laboratory, shop, process areas and any other enclosed area, as applicable, subject to daily or periodic personnel use, and shall complete this cleaning service no later than the commencement of Commissioning as set forth in the respective Specification section.

The DESIGN-BUILDER shall provide for weekly professional cleaning services after initial cleaning and sanitizing for the completed Project and, in particular, in all offices, control rooms, restrooms, laboratory, shop, process areas and any other enclosed area subject to daily or periodic personnel use and shall maintain the weekly cleaning services from commencement of Commissioning, as set forth in the respective Specification section, until issuance of Final Completion. Refer also to the section entitled "Final Completion and Final Acceptance" of the General Conditions.

All temporary (construction) rights-of-way provided by OC SAN shall be redelivered to OC SAN in such condition as to permit the use of said land for the purposes utilized prior to entry thereon by the DESIGN-BUILDER.

GR-44 CLOSEOUT PROCEDURES

A. Final Submittal

The DESIGN-BUILDER, within thirty (30) days after Notice of Substantial Completion date, shall submit the following items to the OC SAN'S REPRESENTATIVE:

- A final updated master schedule indicating actual completion dates, schedule of values and cash flow curves.
- Written warranties, guarantees and information for each mechanical, electrical, process equipment, architectural and other materials, products or equipment specified in the Construction Documents.
- Equipment Service Manuals, both in hard copy and electronic forms.
- New permanent cylinders and key blanks for all locks.
- Maintenance stock items; spare parts; special tools and record of missing items.
- Final completed and verified As-Built Drawings in accordance with the section entitled "As-Built Drawings" of the General Requirements.
- Final photographs and all progress photographs in both electronic and hard copy formats. Hard copies shall be included in photo-album binders.
- Warranties and/or Guarantees, such as for roofing, landscape maintenance, etc., as required.
- Certificates of inspection and acceptance by local governing agencies having jurisdiction.
- Certified Payroll Records, if requested.
- Affidavit of Payment of All Taxes.
- Consent of Surety for Final Payment.
- Final completed punch list.

B. Final Completion

After receipt and acceptance by the OC SAN'S REPRESENTATIVE of the Final Submittal and after completion of Commissioning and submittal of Record Drawings, as specified in the respective Specifications section, the DESIGN-BUILDER may request Final Inspection in accordance with the section entitled "Final Completion and Final Acceptance" of the General Conditions.

SAFETY

GR-45 GENERAL

In connection with the performance of this Contract, OC SAN shall have the authority to enter the worksite at any time for the purpose of identifying the existence of conditions, either actual or threatened, that may present a danger or hazard to any and all employees.

DESIGN-BUILDER acknowledges that provisions of Section 6400 of the California Labor Code, which requires that employers shall furnish employment and a place of employment that is safe and healthful for all employees working therein. In the event OC SAN identifies the existence of any condition that presents an actual or threatened danger or hazard to any or all employees at the worksite, OC SAN is hereby authorized to order the immediate abatement of that actual or threatened condition pursuant to this Section.

OC SAN may also, at its sole authority and discretion, issue an immediate stop work order to DESIGN-BUILDER to ensure that no employee working at the worksite is exposed to a dangerous or hazardous condition. Any stop work order issued by OC SAN to DESIGN-BUILDER in accordance with the provisions of this section, shall not

give rise to any claim or cause of action for delay damages by DESIGN-BUILDER or DESIGN-BUILDER's agents or Subcontractors against OC SAN.

The DESIGN-BUILDER shall meet or exceed the minimum standards set in the Contract Agreement, Exhibit B "Contractor Safety Standards."

GEOTECHNICAL CONSIDERATIONS

GR-46 RESERVED

GR-47 RESERVED

DEWATERING

GR-48 GENERAL

No excavation shall take place below any standing water level regardless of water source until the area has been dewatered. Dewatering shall be accomplished by filtered well points or gravel-packed deep wells and shall be in conformance with the Specifications. Dewatering shall be done in such a manner as to protect adjacent structures.

Dewatering shall consist of furnishing all approved Plans, labor, equipment, and materials, performing all Work to design, construct, and operate dewatering systems, maintaining in a safe and dewatered condition the areas on which the construction Work will be performed, and removing the dewatering system upon completion of the Work.

GR-49 GROUNDWATER LEVEL

The geotechnical report for this Project can indicate various groundwater levels. OC SAN's long-term monitoring of the groundwater also shows the groundwater level to vary daily due to tidal action.

GR-50 SUBMISSIONS FOR REVIEW

The DESIGN-BUILDER shall submit for DESIGNER OF RECORD's review, drawings and data showing DESIGN-BUILDER's proposed plan for dewatering of all Work areas, which shall include the planned method of dewatering, excavation and shoring plan, location and capacity of such facilities as dewatering wells, well points, pumps, sumps, collection and discharge lines, standby units proposed, and protective fills and ditches required for control of groundwater and surface water. The plan for dewatering shall be submitted to DESIGNER OF RECORD no later than fifteen (15) days after the Notice to Proceed. The DESIGN-BUILDER shall furnish such other information as may be required for the complete understanding and analysis of the dewatering and excavation plan by DESIGNER OF RECORD. A copy of the dewatering plan, as accepted by the DESIGNER OF RECORD, shall be submitted to OC SAN'S REPRESENTATIVE for information within three days of the date of acceptance.

In addition to the dewatering plan, DESIGN-BUILDER shall submit to OC SAN'S REPRESENTATIVE an application for and obtain Authorization to Discharge to the OC SAN sewer system before any dewatering discharges may commence as

required by the Specifications section 02220, Dewatering. The DESIGN-BUILDER shall at no time discharge water into OC SAN's sewer system without prior approval from OC SAN'S REPRESENTATIVE.

Review by the DESIGNER OF RECORD will not relieve the DESIGN-BUILDER of the responsibility for the adequacy of the dewatering and excavation plan or for furnishing all equipment, labor and materials necessary for performing the various parts of the Work. If, during the progress of the Work, it is determined by the OC SAN'S REPRESENTATIVE that the dewatering system and excavation plan are inadequate or the DESIGN-BUILDER's plan of construction is inoperative, the DESIGN-BUILDER shall, at DESIGN-BUILDER's expense, furnish, install, and operate such additional dewatering equipment and make such changes in other features of the plan or operation as may be necessary to perform the Work in a manner acceptable to the OC SAN'S REPRESENTATIVE.

The DESIGN-BUILDER shall monitor settlement and groundwater levels around existing structures during dewatering. Records of settlement and groundwater levels shall be kept and evaluated on a daily basis. The DESIGN-BUILDER shall notify the OC SAN'S REPRESENTATIVE immediately if excessive settlement or a significant drop in groundwater level is recorded.

GR-51 DEWATERING AREAS

All permanent improvements shall be constructed in areas free from water. The DESIGN-BUILDER shall construct and maintain all permanent or temporary slopes, dikes, levees, drainage ditches, and sumps necessary for removal of water from Work areas. The DESIGN-BUILDER shall design, furnish, install, maintain, and operate all necessary pumping and other dewatering equipment required for dewatering the various Work areas and for maintaining the foundation and other Work areas free from water from any and all sources whatsoever.

The dewatering shall be accomplished in a manner that will prevent loss of fines from the foundation, will maintain stability of all excavated slopes and bottoms of excavations, and will permit all construction operations to be performed in the dry conditions. Dewatering of excavations shall be performed to the extent required to ensure placement of compacted fill materials in the dry conditions and to prevent sloughing of the excavation side slopes.

The DESIGN-BUILDER shall lower the groundwater level a minimum of three (3) feet below foundation grade prior to foundation preparation and placement of structural foundations. During the placement and compaction of fill or bedding materials, the water level at every point within the limits of fills being placed shall be maintained a minimum of three (3) feet below fill placement level.

GR-52 PROTECTION OF FOUNDATIONS AND EXISTING FACILITIES

The DESIGN-BUILDER shall furnish standby equipment of sufficient size and capacity to ensure continuous operation of the dewatering system as designed. Any damage or settlement to the foundation or other Work or any existing structures caused by temporary or permanent failure or operation of the dewatering system shall be repaired to the satisfaction of OC SAN'S REPRESENTATIVE by the DESIGN-BUILDER at the

DESIGN-BUILDER's expense. The DESIGN-BUILDER should consider the use of recharge systems or other methods of protection of existing facilities. The DESIGN-BUILDER will be required to perform the dewatering and to maintain the permanent Work areas for the length of time as required by Specifications Section 02220, Dewatering, or for such additional time as necessary for the Work under this Contract. Upon completion of the dewatering and control of water operation, all temporary works and dewatering facilities shall be removed in a manner satisfactory to OC SAN'S REPRESENTATIVE.

GR-53 DISPOSAL OF GROUNDWATER

Water from the dewatering and control of water operation may be disposed of in the plant and collection system at a location designated by OC SAN in accordance with the Authorization to Discharge obtained by the DESIGN-BUILDER. The water shall be desilted in strict accordance with the Specifications. The desilting equipment and groundwater extraction wells shall be secured with covers that will prevent odor emissions and shall have a sample port on the discharge line from the desilting tank or filter system to allow inspection and monitoring by OC SAN'S REPRESENTATIVE. Disposal point and maximum flow rate for dewatering waste shall be subject to OC SAN'S REPRESENTATIVE's review and acceptance. OC SAN reserves the right to limit the maximum flow rate per disposal point and may direct the DESIGN-BUILDER to provide additional disposal points at no change in the Contract Price.

PROTECTION AND/OR RELOCATION OF UTILITIES

GR-54 GENERAL

For the purpose of the Construction Documents, utilities shall be considered as including but not limited to, and irrespective of ownership: pipelines (including irrigation lines), conduits, transmission lines, and appurtenances of "Public Utilities" (as defined in the Public Utilities Act of the State of California), and those of private industry, business, or individuals solely for their own use or their tenants; and storm drains, sanitary sewers, street lighting, traffic signal systems, duct banks, telephone cables, transmission cables, and completely buried structures, hereafter referred to as utilities.

DESIGN-BUILDER shall locate and indicate on the Construction Documents, utilities that exist within the limits of the Project, as derived from, among other things, information provided by the owners of such utilities and Design Work requirements. It shall be the DESIGN-BUILDER's responsibility to make DESIGN-BUILDER's own investigations, including exploratory excavations to determine exact location of utilities shown on the Construction Documents and locations of service connections prior to earthwork operations.

The DESIGN-BUILDER shall protect in place all existing utilities running parallel to proposed pipelines or sewers. This includes protection in place of all backfill above the utility and pipe bedding.

Work required in connection with utilities, because of interference with Contract Work, will be performed and paid for as specified in this section. However, when directed or accepted by the OC SAN'S REPRESENTATIVE, changes in line or grade of any structure being built may be made in order to avoid utilities. Any additional costs because of such changes will be paid for as Extra Work.

The right is reserved to governmental agencies and to owners of utilities to enter at any time upon any street, alley, right-of-way, or easement for the purpose of making changes in their facilities and for the purpose of maintaining and making repairs. The Construction Documents provide guidance regarding disclosure of utilities. This section provides guidance as to payment for protection relocation, or disposal of utilities shown and not shown on the Plans.

On all Contract and permit inspection assignments, the DESIGN-BUILDER shall not begin any trench Work until the DESIGN-BUILDER has contacted a regional notification center as defined in California Government Code Section 4215 and the location of all utilities within the Project limits has been identified. If a DESIGN-BUILDER hits a utility, the DESIGN-BUILDER shall take prompt action to make sure that employees and the public are not endangered. If a water line is hit, the trench shall be evacuated immediately. If an oil or gas line is hit, all employees and the public shall be evacuated from the immediate vicinity. All conduits shall be treated as though they are high-voltage or high-current electrical conduits. Do not tamper with any conduit until the owner is called and power shut off. In all cases, call the Fire Department and utility owner immediately.

GR-55 BY OC SAN (AS SPECIFIED)

When it is stated in the Construction Documents that a utility is to be relocated, altered, or reconstructed by other than the DESIGN-BUILDER, OC SAN will conduct all negotiations in respect to such work and the work will be done at no cost to the DESIGN-BUILDER. No additional compensation will be given for delays or inconvenience by others to finish their work on schedule due to unforeseen difficulties.

GR-56 BY DESIGN-BUILDER (AS SPECIFIED)

When Work on a utility is specified on the Construction Documents to be done by the DESIGN-BUILDER, the DESIGN-BUILDER shall make all arrangements and coordinate with the owner of the utility as to when the Work is to be done. Any costs for such Work shall be included in the GMP. The DESIGN-BUILDER shall submit a proposed method of relocation or protection of the utility for review. Review by OC SAN'S REPRESENTATIVE will not relieve the DESIGN-BUILDER of any responsibility.

GR-57 BY DESIGN-BUILDER – SERVICE CONNECTIONS – TRUNK SEWER CONTRACTS ONLY

Where underground main distribution conduits such as water, gas, sewer, electric power, telephone, or cable television are shown on the Plans, the DESIGN-BUILDER, for the purpose of preparing the GMP, shall assume that every property parcel will be served by a service connection for each type of utility.

At least two (2) working days before entering the Work, the DESIGN-BUILDER shall request the utility owners identified in the Construction Documents to mark or otherwise indicate the approximate location of their subsurface facilities including, but not limited to, structures, main conduits, and service connections.

The alteration or temporary relocation of all service connections (including but not limited to: water, irrigation water, sewer, natural or manufactured gas, underground and/or overhead telephone and electrical) to adjacent property shall be the responsibility of the DESIGN-BUILDER.

GR-58 BY DESIGN-BUILDER FOR ITS CONVENIENCE

The temporary relocation or the alteration of any utility, desired by the DESIGN-BUILDER solely for convenience in the performance of the Work, to a position or condition other than that provided for on the Construction Documents shall be the DESIGN-BUILDER's own responsibility. The DESIGN-BUILDER shall make all arrangements with the property owners regarding such work. Any costs of such work for the DESIGN-BUILDER's own convenience shall be absorbed in the GMP.

GR-59 BY DESIGN-BUILDER OR OTHERS – UNKNOWN UTILITIES DURING CONTRACT WORK

In the event that subsequent to the GMP Amendment, a utility is disclosed or installed that is a Differing Site Condition, and when said utility is found to occupy the space required to be occupied by a part of the permanent works that, in the judgment of OC SAN'S REPRESENTATIVE, such utility requires location, relocation, removal, repair of damages, alteration, support or protection, the DESIGN-BUILDER shall request the DESIGNER OF RECORD to prepare such drawings or other written clarification as are necessary for the execution of the change. All such instruction and written clarification shall be submitted to OC SAN'S REPRESENTATIVE in conformance with the requirements of GR 30. The DESIGN BUILDER shall not make any change to the Work as a result of such instructions until they have been reviewed by OC SAN'S REPRESENTATIVE. If the DESIGN-BUILDER believes that a change requested by OC SAN'S REPRESENTATIVE could not reasonably have been foreseen by the DESIGN BUILDER at the execution of the GMP and are not due to any cause for which an increase in the GMP is not permitted, then the DESIGN BUILDER shall notify OC SAN'S REPRESENTATIVE in accordance with the Change Order procedures of the General Conditions of Contract. The Work shall be performed in accordance with Construction Documents and in accordance with the following:

When said utility is found to occupy the space required to be occupied by a part of the permanent works to be constructed under the Contract or parallel to the permanent works and within vertical planes on each side at a distance away equal to the maximum allowable trench width measured at a point 12 inches above the top of the pipe, exclusive of branches or other facilities, as specified in Specifications section 02200, Earthwork, or to be within the specified excavation pay lines (when such are specified in the Construction Documents); OC SAN will arrange for the relocation or alteration of said utility or require the DESIGN-BUILDER to do the same.

Utilities found to cross the excavation but not intercepting the permanent works to be constructed or interfering with the construction will be maintained in place at the DESIGN-BUILDER's expense. Utilities which interfere with the construction technique in use will be protected or relocated.

When said utility is more or less parallel with, and any portion of it does not lie within the vertical planes specified herein above, or does not lie within the excavation pay lines (when such are specified or shown on the Construction Documents); the DESIGN-BUILDER shall advise OC SAN and owner thereof, and in cooperation with the owner of the utility, provide and place the necessary support for proper protection to guarantee continuous and safe operation of the utility.

Continuous sanitary sewer service shall be maintained at all times. Should any existing sanitary sewer or manhole extend within the proposed sewer pipe trench excavation, the DESIGN-BUILDER shall submit a method of construction or support for acceptance by OC SAN'S REPRESENTATIVE and shall assume all responsibilities therefor. All costs for such Work shall be borne by the DESIGN-BUILDER.

If the work is done by others, the DESIGN-BUILDER shall provide time and working space for protection and relocation as required. Where undisclosed utilities are discovered and located by the DESIGN-BUILDER when performing this Contract, DESIGN-BUILDER shall immediately notify OC SAN in writing.

OC SAN will compensate the DESIGN-BUILDER for its direct costs of locating, relocating, removal, repair, support or protection of the undisclosed utilities, together with the cost of equipment used for the Work necessarily idled during such work. The DESIGN-BUILDER will be granted an extension of time for the completion of the Contract equal to the time determined by OC SAN, to be reasonably necessary to perform the Extra Work and OC SAN will not assess liquidated damages against the DESIGN-BUILDER for delay in completion of the Work when such delay was caused by the failure of OC SAN to provide for the removal or relocation of such utility facilities.

The DESIGN-BUILDER will not be entitled to extra compensation or an extension of time when Extra Work is required to repair damage to undisclosed utilities caused by the failure of the DESIGN-BUILDER to exercise reasonable care. The DESIGN-BUILDER will not be entitled to any compensation for indirect or consequential costs or damages incurred as a result of the Extra Work required.

GR-60 ADVANCE NOTIFICATION AND EXPOSURE OF UTILITIES – IN ADVANCE OF WORK

It shall be the DESIGN-BUILDER's responsibility to determine and notify those agencies requiring advance notification for inspection or other purposes before beginning construction in any jurisdictional area of any agency. A minimum of forty-eight (48) hours advance notice shall be given to the various agencies before beginning construction in the area unless specified advance times and other requirements are stated in the Construction Documents or in permit requirements.

It shall be the DESIGN-BUILDER's responsibility to make exploratory excavations to determine the true location and depth of all utilities shown on the Construction Documents. The DESIGN-BUILDER shall also determine the type of material and condition of any utility which may be affected by or affect the Work. The DESIGN-BUILDER shall conduct exploratory excavations at least 1,300 feet ahead of a pipe trench heading a minimum of five (5) days in advance of the planned pipeline construction to provide sufficient lead-time to resolve utility conflicts.

All costs incurred in exposing utilities shall be included in the GMP and no additional allowance will be made therefor.

GR-61 DESIGN-BUILDER RESPONSIBILITY

The DESIGN-BUILDER shall be held responsible for all costs for the repair of any and all damage to the Contract Work or to any utility (whether previously known or disclosed during the Work), as may be caused by the DESIGN-BUILDER's operations. Utilities not shown on the Construction Documents to be relocated or altered by others shall be maintained in place by the DESIGN-BUILDER.

At the completion of the Work, the DESIGN-BUILDER will leave all utilities and appurtenances in a condition satisfactory to the owners and OC SAN.

MISCELLANEOUS

GR-62 OC SAN-FURNISHED POWER AND WATER AT PLANTS NO. 1 AND NO. 2

When the Work is located on the site of Plant 1 or Plant 2, OC SAN will provide the DESIGN-BUILDER and Subcontractors, free of charge during the course of the Contract, 480-volt, 3-phase, 60-hertz, 100-ampere (maximum) electrical service at an existing motor control center indicated by OC SAN'S REPRESENTATIVE. DESIGN-BUILDER shall make provisions with separate utility service for electrical services larger than 100 amperes. OC SAN reserves the right to withdraw power at any time to perform operational or maintenance activities; all standby power required to support the Work shall be provided by the DESIGN-BUILDER. OC SAN'S REPRESENTATIVE will notify DESIGN-BUILDER of power shutdown. No power from OC SAN standby power generation systems shall be used by the DESIGN-BUILDER.

The DESIGN-BUILDER shall submit a written estimate of power needs to OC SAN'S REPRESENTATIVE for acceptance and shall list the estimated connections that require power. The DESIGN-BUILDER shall not connect welding machines or other high-power-use loads to the supply. If dewatering well pumps are to be connected to the power supply, this shall be a separate item in the estimate. OC SAN shall have the right to disallow any item included in the estimate. The DESIGN-BUILDER shall submit a drawing showing the method of connection to OC SAN's source. The method of connection shall include main circuit breakers on the DESIGN-BUILDER's side of the load. All electrical Work shall be in accordance with the National Electric Code and the applicable provisions of the California Administrative Code and California Electrical Code (California Code of Regulations, Title 24). All temporary wiring shall be done with Type SO/portable cable. No construction shall begin until acceptance of the DESIGN-BUILDER's proposed method of takeoff from OC SAN's power supply has been obtained in writing.

The DESIGN-BUILDER shall pull conductors to the point of termination to OC SAN supplied service. OC SAN will terminate the conductors at the motor control center for the temporary service. Convenience outlets may be used with acceptance by the OC SAN'S REPRESENTATIVE, but GFCIs shall be utilized between DESIGN-BUILDER's equipment and OC SAN power supply. Temporary power supplied by the DESIGN-BUILDER from outside utilities shall be buried within the treatment plant and not routed overhead.

OC SAN will furnish to the DESIGN-BUILDER, free of charge during the course of the Contract, reasonable quantities of water (potable, industrial, recycled, and plant) from within the treatment plant. The conveyance systems shall be the responsibility of the DESIGN-BUILDER and shall be provided at the DESIGN-BUILDER's expense.

The DESIGN-BUILDER shall submit a written request of water needs including a description, volume, location, and duration of use to OC SAN'S REPRESENTATIVE for acceptance. A backflow device and flow totalizer shall be required at all connections. The DESIGN-BUILDER shall be responsible for providing, installing, and testing the backflow protection at the DESIGN-BUILDER's expense, unless directed otherwise by OC SAN'S REPRESENTATIVE. If plant operations necessitate changing the connection locations, the DESIGN-BUILDER shall do so at OC SAN'S REPRESENTATIVE's request and at the sole expense of the DESIGN-BUILDER.

The DESIGN-BUILDER shall be responsible for all temporary connections to water and power, disconnections, removal, and cleanup after use.

When the Work site is not located on a plant site, the DESIGN-BUILDER is responsible for supplying its own electricity and water necessary to perform the Work.

GR-63 OC SAN-FURNISHED, DESIGN-BUILDER-INSTALLED PRODUCTS

OC SAN will furnish, for installation by DESIGN-BUILDER, products which are identified in the Construction Documents as "OC SAN-Furnished/DESIGN-BUILDER-Installed)", "installed by DESIGN-BUILDER," or similar terminology.

Work under the Contract shall include all provisions necessary to fully incorporate such products into the Work, including, as necessary, fasteners, backing, supports, piping, conduit, conductors and other such provisions from point of service to point of connection, and field finishing, as shown and/or specified in the Construction Documents. DESIGN-BUILDER shall include loading, transportation, and unloading of OC SAN furnished products from the storage location on the Plant 1 site to the location where the products will be installed.

* * * * *

ATTACHMENT 8

CONTRACTOR SAFETY STANDARDS

CONTRACTOR SAFETY STANDARDS

November 5, 2024 (Revision 11)



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1. INTRODUCTION

1.1. SAFETY PHILOSOPHY

- A. The Orange County Sanitation District (OC SAN) is dedicated to the principle that a safe project is a successful and profitable project for OC SAN, contractors, and members of the public.
- B. OC SAN is committed to the safety of the Project employees, the surrounding community, and the environment.
- C. Safety is viewed as an integral component of the construction process, the other key components being production and quality. However, safety is a primary component of the success of this Project.
- D. The CONTRACTOR shall be responsible for initiating, maintaining, supervising, and enforcing all safety precautions and programs relating to the performance of the Contract. Their employees share in that responsibility as well. All employees are expected to work safely and to contribute to the safety of others.
- E. Incident prevention contributes to the CONTRACTOR's well-being by avoiding injury or illness to the CONTRACTOR, its Subcontractors, OC SAN, and all their employees, improving productivity, contributing to quality, and reducing costs. The community also benefits directly from incident prevention efforts when the environment or members of the community are protected from potential harm.
- F. Injury-causing errors people make can be significantly reduced efficiently and cost effectively by eliminating sources of hazards and unsafe acts and by incorporating safety controls such as, proper training, safe operating procedures, and personal protective equipment.
- G. For the CONTRACTOR to understand this safety philosophy and to meet its expectations, both general and specific training is required. Safety training and the prevention of incidents are logical and appropriate parts of how OC SAN expects the operations of the CONTRACTOR and Subcontractors to be conducted.

1.2. PROGRAM OBJECTIVES

- A. The Contractor Safety Standards have been designed to establish the minimum standards in which the CONTRACTOR's Site-Specific Safety Program (SSSP) must meet or exceed. The CONTRACTOR shall develop and operate an effective safety and health management system.
- B. The Contractor Safety Standards contained in this document were developed to establish the minimum standards for assisting the CONTRACTOR in the elimination or reduction of hazards and risk associated with the Project.
- C. The Contractor Safety Standards also assist the CONTRACTOR's efforts to prevent incidents, ensure the safety of the public, reduce employee injuries, prevent damage to property, promote efficiency, and effect savings by reduction of unplanned business interruption.
- D. No attempt has been made to restate applicable local, State, or Federal regulations or the consensus standards of the American National Standards Institute (ANSI) and the National Fire Protection Agency (NFPA).
- E. Contractors are reminded of their responsibility to have at least one copy of applicable State of California Occupational Safety and Health Administration (Cal/OSHA) regulations, as well as other consensus standards incorporated by reference at the Project for use and review.

- F. Contractors are required to meet or exceed these Contractor Safety Standards, Title 8 CCR Subchapter 4 Construction Safety Orders, and Title 8 CCR Subchapter 7 General Industry Safety Orders.
- G. OC SAN and its authorized representatives will neither assume nor relieve any contractor or service provider of their direct responsibility for the safety and health of their employees, the protection of visitors and the public, or the protection of equipment and property.
- H. OC SAN will advise the CONTRACTOR of known hazards associated with OC SAN processes; however, the CONTRACTOR is ultimately responsible for the identification of hazards and ensuring they are controlled or eliminated.
- I. OC SAN reserves the right to remove from the Project any employee of the CONTRACTOR and/or its Subcontractors for a violation of the Contractor Safety Standards.
- J. OC SAN reserves the right to stop work of the Contractors as a result of a hazardous condition, near miss, or incident. Following an investigation with corrective actions satisfied, the Contractors or visitor may return to the Work site. If OC SAN determines that an incident could have resulted in or did result in a major injury or fatality because of the negligence of any Contractor or its employees, then OC SAN reserves the right to permanently remove individuals from the Work site. Examples of unsafe observations that would warrant removal include:
 - 1. Failing to join an active LOTO while performing craft.
 - 2. Failing to secure permits for high-risk craft.
 - 3. Fall protection deviations.
 - 4. Unauthorized entry into confined spaces.
 - 5. Other Cal/OSHA violations that can be determined to be life critical if not followed properly. OC SAN's Risk Management Division (Risk Management) has discretion in determination of life critical safety.
- K. Contractors may reduce incidents, injuries, and illnesses through completion of the following:
 - 1. Performing or attending new hire safety orientations.
 - 2. Conducting daily toolbox/tailgate safety meetings.
 - 3. Receiving safety training (i.e., hazard communication, confined space, excavation and trenching, shoring, fall protection, lockout/tagout, personal protective equipment including respiratory protection, hot work, incident reporting, equipment specific training).
 - 4. Implementing mandatory personal protective equipment (PPE) programs.
 - 5. Injury reporting, incident investigation, root cause analysis, corrective action, and recordkeeping.
 - 6. Implementing appropriate and effective safety management systems that includes the timely identification, correction, and tracking of uncontrolled hazards in Contractor work areas.
 - 7. Using safety planning tools such as Job Safety Analysis (JSA) and Pre-Use Inspections to eliminate workplace injuries and property damage.
 - 8. Conducting safety audits and inspections to identify, prioritize, and correct non-compliance conditions.

9. Protecting public and private property adjacent to all construction site work zones.
10. Informing Risk Management and the ENGINEER of any visit from a regulatory agency such as Cal/OSHA, EPA or SCAQMD.
11. Educating and training employees by implementing their respective safety programs.
12. Maintaining a positive and proactive safety culture. A proactive safety culture may mitigate the first incident or accident. A reactive safety culture may prevent the second.

1.3. HARASSMENT AND DISCRIMINATION

- A. OC SAN does not tolerate any form of harassment or discrimination and is committed to providing a work environment that is free of harassment and discrimination.
- B. Contractors are expected to support and comply with OC SAN's harassment and discrimination policies. Contractor's supervision or management observing or knowing of a harassing situation shall take immediate action to stop it and report the matter to the ENGINEER.
- C. No employee shall be subjected to any form of retaliation for reporting any violation of this policy when it is reported truthfully and in good faith. A report is made in good faith when the complainant reasonably believes there is a violation of policy.

1.4. RETALIATION AND WHISTLEBLOWING

- A. It is OC SAN policy to prohibit retaliation or reprisals toward employees or contractors who engage in the following:
 1. Disclosing information to a government or law enforcement agency or internally to OC SAN, where there is reasonable cause to believe that the information discloses a violation of state or federal statute or is not in compliance with state or federal regulation.
 2. Disclosing the filing of a false claim for money, goods, or services to OC SAN.
 3. Filing a written complaint, under penalty of perjury, of gross mismanagement, a significant waste of funds, an abuse of authority or a substantial and specific danger to public health or safety.
 4. Complaints of discrimination or harassment or any other prohibited conduct or violation of federal law.
 5. Complaints about unfair labor practice.
 6. Participating in an administrative investigation either as the complainant, a witness, or the accused, or conducting an administrative investigation.
 7. Contractors are expected to maintain similar policies for its own employees regarding the prevention of retaliation or reprisal.

1.5. EMPLOYEE CONDUCT

- A. All project employees must always maintain professional behavior.
- B. Horseplay, fighting, harassment, hostile work environments, possession, or use of alcohol and/or illegal drugs, possession of firearms, and gambling are not allowed and shall result in disciplinary action, up to and including immediate removal of the Contractor and/or its employee(s) from the site.

1.6. WORKPLACE VIOLENCE AND WEAPONS

- A. Contractors shall adopt and enforce their written workplace violence policy that covers harassment, intimidation, threats, violence, and weapons.
- B. Before the on-site Work commences, the CONTRACTOR shall submit the CONTRACTOR's and its Subcontractors' workplace violence prevention plan per Section 01701 Project Control Management System (PCMS).
- C. OC SAN reserves the right to remove from the Project any Contractor or its employees for violation of the respective policies adopted by the CONTRACTOR and its Subcontractors.
- D. OC SAN strictly prohibits persons, excluding armed security services, from possessing weapons including, but not limited to, firearms, explosives, knives, clubs, and incendiary devices on OC SAN premises, in vehicles, or in possession of the person.
- E. Persons who engage in prohibited conduct are subject to leave action by law enforcement authorities. Examples, while not all-inclusive, are considered prohibited conduct:
 - 1. Causing physical injury to another person.
 - 2. Making threatening remarks, whether with intent to harm or in jest.
 - 3. Aggressive, hostile, or harassing behavior that creates a reasonable fear of injury to another person or subjects another individual to emotional distress.
 - 4. Intentionally damaging property.
 - 5. Possession of a weapon while on OC SAN property.
 - 6. Committing actions motivated by, or related to, sexual harassment or domestic violence.
 - 7. Other acts or threats of violence as determined by OC SAN.
- F. Contractor's labor force terminations should not occur on OC SAN property. Contractors shall make every attempt to have terminations occur on Contractor's property. Notification of terminations or layoffs shall be made to OC SAN so badging can be terminated, and security can be informed.

1.7. NEWS MEDIA

- A. Contractors shall refer questions from news media personnel (e.g., social media, radio, television, newspaper) to the ENGINEER.
- B. Project accidents/incidents resulting in news media coverage (radio, television, newspaper) shall be immediately reported to the ENGINEER.
- C. Contractors must obtain written approval from OC SAN prior to taking photos or videos of OC SAN projects and/or property if such photos or videos are not related to normal business.

1.8. CONFLICT BETWEEN REGULATIONS

- A. In the case of conflict between regulations, codes, consensus standards (regulatory supported), and the Contract Documents (includes Contractor Safety Standards and Specifications), the most stringent requirements shall govern.
- B. Conflicts shall be brought to the attention of the ENGINEER. OC SAN reserves the right to issue a final determination for conflicts.

- C. The CONTRACTOR shall bid for the most stringent regulatory supported and applicable reference standards.

2. EMERGENCY RESPONSE PROCEDURES

2.1. REPORTING AND NOTIFICATION

- A. Reporting and notification times vary depending on the type of incident or emergency. Contractors shall notify the ENGINEER and/or Risk Management in accordance with the following:
 - 1. First aid, work-related injuries, property or equipment damage, vehicle accidents, minor utility strikes, minor spills (5 gallon or less), and near miss events must be immediately reported to the INSPECTOR, the ENGINEER, and/or Construction Safety Inspector. A written preliminary report documenting the event must be emailed to the ENGINEER and Construction Safety Inspector within 24 hours. A written incident report documenting root cause analysis with appropriate corrective actions must be emailed to the ENGINEER and Construction Safety Inspector within 5 business days.
 - 2. Fatalities, severe or catastrophic injuries, hospitalizations, significant property or equipment damage, fires, significant utility strikes, and medium to large spills must be immediately reported to the ENGINEER, the INSPECTOR, and/or Construction Safety Inspector. A written preliminary report documenting the event must be emailed to the ENGINEER and Construction Safety Inspector within 8 hours. A written incident report documenting root cause analysis with appropriate corrective actions must be emailed to the ENGINEER and Construction Safety Inspector within 5 business days.
- B. Immediately following a near miss or incident, Contractors shall stop Work until it is determined that it is safe to resume. If a person sustains a major injury, or if the incident is classified as a significant near miss, the Work must be stopped, and the investigation initiated immediately. First Aid and CPR trained individuals shall begin treatment on injured employees.
- C. When working at Plant 1 or Plant 2, Contractors shall contact OC SAN Operations Control Center for medical emergencies requiring off-site emergency medical services, fires, large spills or chemical releases, and workplace violence by dialing the following:
 - 1. Plant 1 Emergencies
 - a. Dial 2222 from OC SAN Landline, or
 - b. Dial 714-593-7133 from mobile phone.
 - 2. Plant 2 Emergencies
 - a. Dial 2222 from OC SAN Landline, or
 - b. Dial 714-593-7677 from mobile phone.
- D. When working off site at OC SAN's wastewater lifting stations, sewer lines, or other facility, Contractors shall contact emergency medical services, and report fires, chemical spills or releases, and workplace violence by dialing 911. Immediately after 911 has been contacted, Contractors shall contact the ENGINEER, the INSPECTOR, and/or Risk Management.
- E. For wastewater releases, Contractors shall contact OC SAN Operations Control Center by dialing 714-593-7025 from a mobile phone.

- F. Emergency telephone numbers listed above shall be posted at the job site or made readily available for employee use.
- G. The CONTRACTOR shall prepare maps clearly identifying the Project area, active entrances, location of first aid stations and other emergency supplies, as well as location of the nearest hospital.

2.2. MEDICAL EMERGENCY

- A. Assess the scene to make sure it is safe and that hazards are not present that could result in injury to medical responders.
- B. Render first aid or cardiopulmonary resuscitation (CPR) promptly to the injured employee(s). Only employees trained in first aid and CPR shall render medical treatment. One or more employees shall be trained in first aid and CPR and be available at the job site always.
- C. Follow reporting and notification procedures outlined in Section 2.1 Reporting and Notification.
- D. If outside emergency medical services are required, the CONTRACTOR shall escort emergency medical personnel to the location of the injured person(s).
- E. The CONTRACTOR shall notify OC SAN of injuries that require outside medical services.
- F. Injured persons shall not drive themselves to the hospital or clinic. The CONTRACTOR shall have supervisor or designee drive the person.

2.3. FIRES

- A. Only fires that are in the incipient stage (initial or beginning) shall be extinguished by portable fire extinguishers or small hose systems. Only individuals that have been trained to use a fire extinguisher shall use one.
- B. Contractors shall provide fire extinguishers for their own craft work and hot work, and not rely on the nearest OC SAN plant fire extinguishers designated for plant process fires.
- C. For fires beyond the incipient stage, evacuate the immediate area and activate the fire alarm system (if available).
- D. Contractors shall follow reporting and notification procedures outlined in Section 2.1 Reporting and Notification.
- E. Contractors shall not block, cover, or restrict exit routes, exit doors, fire extinguishers, fire alarm panels, or fire suppression systems without prior written acceptance by the ENGINEER. The CONTRACTOR shall submit using OC SAN's PCMS appropriate plans for approval to block, cover, or render these systems inoperable.

2.4. EARTHQUAKES

- A. Contractors are expected to be prepared to respond in the event of an earthquake by training their employees to "duck, cover, and hold".
- B. Once the shaking has stopped, report to an assembly area agreed upon with OC SAN so that all employees may be accounted for.

2.5. TSUNAMI

- A. Contractors will be notified by OC SAN using the PA system and word of mouth. OC SAN relies on Tsunami Watch or Warning issued by the National Tsunami Warning Center. Immediately after a strong earthquake is felt at Plant 2 or one of

the pumping plants located along the coast, Contractors must take action to move to a safe location.

- B. OC SAN will direct Contractors to either retreat to Plant 1 or shelter in place at a designated Tsunami evacuation site at Plant 2. Tsunami inundation areas and evacuation sites are provided in the Contractor Safety Orientation. Contractors are expected to have a communication system in place to account for all its employees and to notify OC SAN of their condition.

2.6. PANDEMICS

- A. Contractors shall adhere to all recommendations made by public health officials to keep their employees safe. This may include physical distancing, face coverings, hygiene practices, training, symptom screening, cleaning and disinfection, and implementation of other engineering and administrative controls.
- B. Contractors are responsible for implementing their own controls and training for their employees in compliance with public health recommendations. OC SAN is not responsible for implementation.

3. ROLES AND RESPONSIBILITIES

3.1. GENERAL

- A. The CONTRACTOR shall be responsible for initiating, maintaining, supervising, and enforcing all safety precautions and programs regarding the performance of the Contract for the on-site safety of its employees and Subcontractors performing Work for the benefit of this Project. This includes responsibilities for the public, OC SAN staff, OC SAN representatives, vendors, delivery and transportation services, and service providers at the Project location.
- B. The CONTRACTOR shall comply with all applicable provisions of Federal, State, and local laws, ordinances, codes, and regulations affecting safety and health.
- C. Contractors shall comply with the most stringent of the following:
 - 1. California OSHA Safety Orders.
 - 2. Federal OSHA Safety Orders.
 - 3. The Contractor's Site-Specific Safety Program.
 - 4. Applicable consensus standards, including ANSI, NFPA, etc., if specified before or during Work by Risk Management.
 - 5. Contractor Safety Standards.
 - 6. Contract Documents.
- D. The CONTRACTOR shall designate in its SSSP, a responsible, competent, and qualified member of its organization at the work site who has the following:
 - 1. Authority to enforce the Contractor's Safety and Substance Abuse programs.
 - 2. Responsibility to assure compliance with the OSHA Act.
 - 3. Responsibility to identify and obtain correction of hazards.
- E. In addition to requirements described elsewhere in this document, the CONTRACTOR's Safety Manager, Safety Representative, Project Manager, Superintendent, and Foremen shall have at minimum:
 - 1. Authority to stop Work when a serious safety hazard or imminent danger is identified.

2. Authority to implement corrective actions.
3. Relevant construction safety experience in the type of Work the CONTRACTOR is performing under the Contract.
4. Evidence of completion of either the OSHA 30 Hour Construction Training, OSHA 30 Hour General Industry Training, Certified Health and Safety Technician, or Certified Safety Professional as applicable to the hazards expected to be encountered in the Work.
5. Current First Aid training from a provider recognized by OSHA.
6. Current CPR training from a provider recognized by OSHA.
- F. The CONTRACTOR shall prepare and maintain an Injury and Illness Prevention Program (IIPP) and SSSP.
- G. The CONTRACTOR shall ensure that its Subcontractors develop, maintain, and implement effective IIPPs and SSSPs. Upon request by OC SAN, the CONTRACTOR shall submit to OC SAN its Subcontractors IIPP and SSSP for review.
- H. The CONTRACTOR shall enforce that the Subcontractors are responsible for initiating, maintaining, supervising, and enforcing the safety requirements outlined by the Contractor Safety Standards and the CONTRACTOR's Site-Specific Safety Program, even though the requirements may be above and beyond the Subcontractor's own safety policies, and Federal and State OSHA requirements.
- I. The CONTRACTOR shall provide additional safety resources to address poor safety performance and demonstrated inability to manage safety in accordance with the Contract Documents. At the ENGINEER's request or where required by the Contract Documents, the CONTRACTOR shall be required to employ a full-time Contractor Safety Manager for projects that do not meet the criteria for a CONTRACTOR dedicated safety professional. The CONTRACTOR may require its Subcontractors to provide their own Safety Managers and Safety Representatives to fulfill the requirements of this Section for the Subcontractor's work.
- J. Any Contractor who place, installs, erects, or connects any electrical wires, fixtures, appliances, apparatus, raceways, conduits, solar photovoltaic cells, or any part thereof, which generate, transmit, transform, or utilize electrical energy in any form or for any purpose shall be an electrician certified by the State of California or a C-10 Electrical Contractor Licensed in the State of California. The Contractor shall submit C-10 credentials to the ENGINEER for review via OC SAN's PCMS prior to mobilization.
- K. Any Contractor who installs, services, and maintains all types of communication and low voltage systems which are energy limited and do not exceed 91 volts shall be a C-7 Low Voltage Systems Contractor. These systems include, but are not limited to telephone systems, sound systems, cable television systems, closed-circuit video systems, satellite dish antennas, instrumentation and temperature controls, and low voltage landscape lighting. Low voltage fire alarm systems are specifically not included in this section.
- L. Any Contractor who lays out, fabricates, and installs all types of fire protection systems, including equipment associated with the systems (excluding alarm systems) shall be a C-16 Fire Protection Contractor.

3.2. CONTRACTOR SAFETY MANAGER (CSM)

- A. The Special Provisions of the Contract Documents dictate whether or not this position is required to be onsite daily when the Contractors are at the Project site. The CSM's sole responsibility shall be safety. The ENGINEER and Risk Management reserve the right to waive the requirement for a CSM. The request to waive the CSM shall be made in writing and will be determined on a case-by-case basis.
 - 1. Where not required by the Special Provisions, the CSM shall be available by phone, text, or email as a technical reference to the CSR.
 - 2. When required by the Special Provisions, the CSM shall be onsite daily when the Contractors are present at the Project site.
- B. The CSM shall be identified in writing to the ENGINEER prior to the commencement of the Work. The CONTRACTOR shall submit the resume of the CSM candidate to the ENGINEER and Risk Management for review, prior to the start of on-site Work. The resume shall be submitted using OC SAN's PCMS. OC SAN reserves the right to direct the removal and replacement of the CSM as necessary. Failure to replace the CSM within ten (10) working days will result in a shutdown of all field work.
- C. The CSM shall have a minimum of five years of qualified construction safety (primary project duty) experience, from similar type construction projects. A Certified Safety Professional (CSP), Associate Safety Professional (ASP), Safety Trained Supervisor Construction (STSC), or Construction Health and Safety Technician (CHST) is preferred.
- D. If the CONTRACTOR has multiple distinct projects with OC SAN, the CSM can assign a CSR for each of the projects. The CSR(s) shall report directly to the CSM.
- E. Alternate CSM meeting the same qualifications as the CSM shall be provided when the designated CSM is not available, unless agreed upon by the ENGINEER and Risk Management. The Alternate CSM shall hold the same responsibilities as the CSM.
- F. Specific responsibilities of the CSM include, but are not limited to, completing, or overseeing the completion of the following:
 - 1. Conduct Project-specific safety orientation sessions for employees who are new to the site, prior to their beginning work.
 - 2. Conduct, participate in, or assist Field Supervisors with daily toolbox safety meetings.
 - 3. Instruct and inform supervisors and management on safety rules and regulations.
 - 4. Instruct supervisors and employees in the proper use and care of PPE.
 - 5. Instruct supervisors and employees concerning special procedures (e.g., confined space entry, trench shoring, lockout/tagout, etc.).
 - 6. Complete incident investigation reports in accordance with the Contractor Safety Standards. Records are to be maintained at the site and distributed as described in these Contractor Safety Standards.
 - 7. Conduct and document weekly Project safety inspections. Inspections shall be documented and include date of inspection, description of finding, corrective

actions, and date the corrective action was taken. Records of inspections are to be submitted using OC SAN's PCMS.

8. Maintain training documentation. Records are to be maintained at the site available for review upon request.
9. Implement, update, and maintain the SSSP including safe work procedures and practices.
10. Demonstrate, by example, proper safety behavior and a proactive safety culture.
11. Ensure that required emergency medical supplies are adequate, clean, and stocked.
12. Coordinate transportation of employees with minor injuries to the designated Medical Clinic.
13. Inform CONTRACTOR employees and Subcontractors, the ENGINEER, and Risk Management of any safety related problems that have either developed or be reasonably be expected to develop.
14. Maintain records in accordance with Cal/OSHA Recordkeeping requirements.
15. The OSHA 300 Log for the CONTRACTOR is to be available for review upon request by the ENGINEER or Risk Management.
16. Support the CSR at their designated work locations.
17. Develop and/or review confined space entry procedures, ventilation plans, rescue plans, hot work procedures, lift plans, and other safety submittals for Project Work.

3.3. CONTRACTOR SAFETY REPRESENTATIVE(S)

- A. A CSR shall be provided where the CSM is not required to be onsite per the Special Provisions of the Contract Documents. CSRs shall always be provided when the CONTRACTOR has multiple Project sites at OC San.
- B. The CSR shall be identified in writing to the ENGINEER prior to the commencement of the Work. The CONTRACTOR shall submit the resume of the CSR candidate to the ENGINEER and Risk Management for review, prior to the start of on-site Work. The resume shall be submitted using OC SAN's PCMS. OC SAN reserves the right to direct the removal and replacement of the CSR if necessary.
- C. The CSR shall be employed in a supervisory position, empowered by their employer to take corrective action, be present on the Project while Work is being performed, and spend the amount of time necessary to ensure the Contractors' compliance with these Contractor Safety Standards.
- D. The CSR shall be present at the Project site while Work is being performed by the CONTRACTOR and its Subcontractors.
- E. Alternate CSR meeting the same qualifications as the CSR shall be provided when the CSR is not available. The Alternate CSR shall hold the same responsibilities as the CSR. Alternate CSR duties may be assumed by a similarly qualified project Supervisor.

- F. Specific responsibilities of the CSR include, but are not limited to, completing, or overseeing the completion of the following:
1. Conduct Project-specific safety orientation sessions for employees who are new to the site, prior to their beginning work.
 2. Conduct, participate in, or assist Field Supervisors with daily toolbox safety meetings.
 3. Instruct and inform supervisors and management on safety rules and regulations.
 4. Instruct supervisors and employees in the proper use and care of PPE.
 5. Instruct supervisors and employees concerning special procedures (e.g., confined space entry, trench shoring, lockout/tagout, etc.).
 6. Complete incident investigation reports in accordance with the Contractor Safety Standards. Records are to be maintained at the site and distributed as described in these Contractor Safety Standards.
 7. Conduct and document weekly Project safety inspections. Inspections shall be documented and include date of inspection, description of finding, corrective actions, and date the corrective action was taken. Records of inspections are to be submitted using OC SAN's PCMS. Forward copies of inspection and corrective action records to the ENGINEER and Risk Management.
 8. Maintain training documentation. Records are to be maintained at the site available for review upon request.
 9. Implement, update, and maintain the SSSP including safe work procedures and practices.
 10. Demonstrate, by example, proper safety behavior and a proactive safety culture.
 11. Ensure that required emergency medical supplies are adequate, clean, and stocked.
 12. Coordinate transportation of employees with minor injuries to the designated medical clinic.
 13. Inform CONTRACTOR employees and Subcontractors, the ENGINEER, and Risk Management of any safety related problems that have either developed or be reasonably be expected to develop.
 14. Maintain records in accordance with OSHA Recordkeeping requirements.
 15. Consult with the CSM regarding Contractor safety.
 16. Develop and/or review confined space entry procedures, ventilation plans, rescue plans, hot work procedures, lift plans, and other safety submittals for Project Work.

4. PROGRAM ELEMENTS

4.1. INJURY AND ILLNESS PREVENTION PROGRAM

- A. The CONTRACTOR shall establish, implement, and maintain an effective, written IIPP in accordance with Title 8 of the California Code of Regulations Section 1509 and Section 3203.
- B. The IIPP shall identify persons responsible for the safety program, system for ensuring employees comply with the safety and health practices, communication,

procedures for identifying and controlling hazards, safety incentive, disciplinary action programs, procedures for investigating incidents and injuries, and training.

- C. The CONTRACTOR shall submit a copy of their IIPP to OC SAN for review and retention through OC SAN's PCMS.
- D. The CONTRACTOR shall review the contents of the IIPP with their employees.
- E. The CONTRACTOR shall maintain a copy of the IIPP onsite. The CONTRACTOR shall make available a copy of the IIPP when requested by OC SAN or Cal/OSHA. The CONTRACTOR's IIPP will be audited by OC SAN at least annually.

4.2. SITE-SPECIFIC SAFETY PROGRAM

- A. The CONTRACTOR and its Subcontractors shall establish, implement, and maintain an effective, written SSSP in accordance with OC SAN requirements.
- B. The SSSP shall be developed and submitted prior to the start of the Work. The SSSP will be submitted for review and acceptance using OC SAN's PCMS. The SSSP shall be updated as Project hazards change. The SSSP shall be made available to OC SAN upon request. The CONTRACTOR's SSSP will be audited by OC SAN at least annually.
- C. The SSSP must be endorsed by OC SAN prior to mobilization and start of field Work. The CONTRACTOR may conduct field walks without an endorsed SSSP with the ENGINEER's acceptance.
- D. The SSSP shall be specific to the Work performed by the CONTRACTOR and Subcontractors. The SSSP shall include the following at a minimum (not necessarily in this order):
 - 1. Assignment of accountability and responsibilities for key personnel responsible for implementation of the SSSP and safety performance on the
 - 2. Project responsibilities listed shall have a focus on safety, and may include Project Managers, Superintendents, Foreman, CSMs, or CSRs.
 - 3. Emergency Contact List (Contact information for key personnel, including local police, fire department, hospital, and poison control).
 - 4. Emergency Action Plan (detail and describe potential emergency situations arising from the Work and the procedures that will be followed to manage them, include map to hospital).
 - 5. Brief Description of Project Work (high-level overview of the Work to be performed).
 - 6. Hazard Assessment and Risk Analysis (identify high-level hazards associated with the Work, assign a risk level to each).
 - 7. Control Measures (identify appropriate engineering controls, administrative controls, work practices and PPE to address the hazards identified that are associated with the Work).
 - 8. Job Safety Analysis (also referred to as activity hazard analysis, task hazard analysis, job hazard analysis). The CONTRACTOR shall either submit prepared JSAs as part of the SSSP or have a process in place to develop them in the field prior to the start of each Work task. JSAs prepared in the field prior to start of Work shall be submitted to Risk Management for review.
 - 9. Personal Protective Equipment (detail the types and levels of PPE to be used onsite by employees for high-level tasks; must comply with OC SAN minimum requirements).

10. Personal and Environmental Monitoring (describe and detail equipment, action levels, exposure limits, frequency, or as otherwise required by regulations to monitor for various hazards agents (dust, asbestos, vapors, etc.)).
11. Hazard Identification, Corrective Action, and Inspection (describe how hazards will be identified and corrected; describe how weekly inspections will be completed and to what criteria).
12. Safety Training Program (describe/list required training to be completed by employees for the hazards they are likely to encounter in the scope of their Work; maintain and provide table with trainings completed and due for each employee. The CONTRACTOR shall ensure that all personnel are properly trained and instructed for all jobs that require specific training and/or competency to meet all applicable Cal/OSHA regulations, Federal, State, and local law, and the requirements herein. The CONTRACTOR shall submit a copy of its employees and Contractors' employees training records to OC SAN for review using OC SAN's PCMS.
13. Project-Specific Safety Orientation Program (requirement to orientate employees to the Project hazards and controls, emergency action procedures, and OC SAN requirements). Copies of the CONTRACTOR's orientation program and a roster of those that have completed the orientation shall be submitted using OC SAN's PCMS.
14. Recordkeeping and Retention Requirements (provisions for maintaining orientation, training, inspections, corrective action, and investigation records).
15. Hazard Communication (how will chemicals be managed onsite, stored, handled, and hazards communicated to employees; safety data sheets shall be available onsite for all chemicals brought and/or used onsite; attach safety data sheets to SSSP or maintain in separate binder).
16. Identify and properly label all waste handling bins according to the Global Harmonized System (GHS).
17. Identification of Competent Persons and Qualified Persons (if performing excavation and trenching, shoring, cranes, rigging, fall protection, confined space, rescue, lockout tagout, forklift operation, electrical work, etc.).
18. Fire Prevention (describe how fires will be prevented and equipment to be used, etc.).
19. Housekeeping (describe how housekeeping will be maintained on the Project).
20. Drug, Alcohol and Substance Abuse Prevention Program (can reference to IIPP as needed).
21. Near Miss and Incident Investigation Program (process for investigating incidents and near misses, including reporting; can reference to IIPP as needed).
22. Heat Illness Prevention Program (compliance with 8 CCR 3395; can reference to IIPP as needed).
23. The CONTRACTOR's Policy on Whistleblower Rights and Anti-Retaliation Protection for their employees (can reference to IIPP as needed).

24. Cal/OSHA Required Safety Programs or Plans (attach where applicable based on the Work):
- a. Fall Prevention Plans and Program (training, inspections, identification, and rescue plan requirements shall be addressed in the program).
 - b. Scaffold Plans (shall include inspection, erection, dismantling, training)
 - c. Respiratory Protection Program
 - d. Confined Space Entry Plans and Program (training, entry procedure, and rescue plans shall be addressed in the program)
 - e. Control of Hazardous Energy Program (Lockout/Tagout)
 - f. Hearing Conservation Program
 - g. Excavation and Trenching Safety Plans and Program
 - h. Hot Work and Fire Prevention Program
 - i. Other programs as required by Cal/OSHA
- E. The CONTRACTOR shall submit its IIPP, SSSP, and list of proposed Safety Manager and Representatives no later than 15 days from the effective date of the Notice to Proceed for review by OC SAN. The SSSP must be accepted by OC SAN prior to mobilization and start of field Work. The CONTRACTOR may conduct field walks without an endorsed SSSP with acceptance by the ENGINEER. These documents must be submitted using OC SAN's PCMS.
1. The acceptance of the IIPP and SSSP will be based solely on the content of those programs relative to conformance with these Contractor Safety Standards and the Specifications. Receipt of program by OC SAN does not constitute OC SAN acceptance of the program.
 2. Failure to attain acceptance of the IIPP and SSSP prior to the scheduled commencement of Contract Work is not grounds for a time extension.
 3. The CONTRACTOR and Subcontractor Project Superintendents and General Foreman(s), and all on-site trade foremen shall complete either the OSHA 30-hour General Industry or the Construction Safety Course as applicable to the Work. OSHA 30-hour certifications shall be submitted using OC SAN's PCMS.
- F. Contractors' employees shall receive a Project specific safety orientation, that at a minimum review the Project safety rules, OC SAN general safety rules, Project hazards and controls, emergency notification and reporting procedures, and PPE requirements.
1. Service vendors and visitors shall be provided with an orientation that is appropriate for their exposures during their time on site.
 2. The CONTRACTOR is to provide this orientation to its employees and Subcontractors.

4.3. PRE-SHIFT CREW MEETINGS

- A. Contractors shall conduct daily tailgate/toolbox safety meetings with its employees. The meeting should be 10-15 minutes and held to keep employees alert to Work-related hazards and prevent injuries.
- B. The meeting should address the specific hazards and safe work practices for the Work tasks that employees are performing, to include the following:
1. Tasks for the shift, including review of applicable Job Safety Analysis.

2. Tools and equipment needed for those tasks.
 3. Materials needed for those tasks.
 4. Proper material handling techniques.
 5. Safe work procedures to perform those tasks.
 6. PPE needed to safely perform those tasks.
 7. Lessons learned from prior shifts.
 8. Questions from the crew.
- C. Employees shall be encouraged to actively participate by asking questions, having discussions, and having employees describe personal experiences.
- D. The toolbox meeting shall be documented with daily attendance roster and maintained by the Contractors throughout the duration of the Project.
- E. The daily toolbox safety meeting form shall be made available for review by the ENGINEER or Risk Management, upon request.

4.4. PROJECT PLANNING AND PROJECT MEETINGS

- A. Safety and loss control activities are key elements in the success of any project.
- B. Safety and loss control activities are to be integrated into the Work plan such that safety is an integral component of the construction process, rather than treated as a separate activity.
- C. There are five main elements to the planning and meeting component of the Contractor Safety Standards.
1. Project Survey: Prior to the start of the Work, the CONTRACTOR shall conduct a physical survey of the job site. The CONTRACTOR shall also review the Plans and Specifications.
 2. Construction Process Plan: From the Project Survey, the CONTRACTOR shall develop a written Construction Process Plan. The Construction Process Plan shall identify tasks and activities under four main categories:
 - a. Construction Sequence and Procedures
 - b. Temporary Structures / Shoring / Reshoring / Bracing / Retention Systems Required
 - c. Critical Structures or Processes
 - d. Description of Required Tests and Approvals
 3. Job Safety Analysis: JSA needs may be pre- determined in part by reviewing the Construction Process Plan and Construction Schedule. The JSA should be prepared far enough in advance of the task or activity to ensure that changes or revisions will not affect the scheduled execution of the task or activity.
 4. Construction Progress Meetings: These meetings are typically held on a weekly or bi-weekly basis and are typically chaired by the ENGINEER.
 5. Pre-Phase Planning Meetings: Pre-phase meeting needs may be identified from the Construction Process Plan.
 - a. The CONTRACTOR shall schedule the Pre-Phase Planning Meeting far enough in advance of the start of the relevant phase to ensure that changes or revisions to JSA's and coordination efforts will not affect the scheduled execution of the relevant phase of the Work.

- b. The Pre-Phase Meeting shall include the ENGINEER and Risk Management, as well as the CONTRACTOR and Subcontractors involved in that phase of the Work. This meeting shall identify and address the safety and coordination issues of the relevant phase of the Work.
- c. Pre-Phase Safety Analysis' shall be prepared using the JSA form (or an acceptable equivalent); specific JSAs are to be prepared using the Pre-Phase Hazard Analysis as a guide.
- d. Subsequent meetings may be required throughout the phase of the Work to maintain safety and coordination efforts.

4.5. INCIDENT REVIEW MEETINGS

- A. The CONTRACTOR's Safety Manager or Safety Representative shall schedule an Incident Review Meeting within 48 hours of the occurrence of an incident with the ENGINEER and Risk Management.
- B. The intent and purpose of the incident review meeting is to interactively and cooperatively identify causal factors that had, or may have had, a role in the incident, and to identify corrective action(s) and practice(s) to implement to avoid potential reoccurrence of the incident. It is NOT a faultfinding or blame-finding event. Attendees should include:
 - 1. The ENGINEER
 - 2. The CONTRACTOR Project Manager
 - 3. CSM / CSR
 - 4. Risk Management
 - 5. The CONTRACTOR / Subcontractors (Assistant) Superintendent(s) accountable via functional structure of the Project for the incident
 - 6. The CONTRACTOR / Subcontractors (General) Foreman / Foremen accountable via functional structure of the Project for the incident
 - 7. Craftsperson(s) involved with the incident (if available).
- C. The CONTRACTOR shall submit a written report detailing the root cause analysis and corrective actions to OC SAN via email within five business days of the occurrence of the incident.
- D. The CONTRACTOR shall work with Risk Management if additional corrective actions are required to satisfy OC SAN safe worksite mandate.
- E. For the purposes of this section, "Incident" may be defined as any or all the following: (as determined by owners authorized representatives.)
 - 1. Near-Miss
 - 2. First-Aid
 - 3. Recordable Injury
 - 4. Vehicular Incident
 - 5. General Liability / Third-Party Incident
 - 6. Property Damage
 - 7. Other, as determined by OC SAN

4.6. CONTRACTOR SAFETY ORIENTATION

- A. The CONTRACTOR shall attend a Contractor Safety Orientation (CSO), administrated by Risk Management, prior to start of the Work.
- B. The CSO is designed to orient the Contractors to general hazards at the work location; identifying OC SAN expectations for safety performance; reviewing emergency notification capabilities; and discussing Contractor activities that may pose a hazard to OC SAN employees, visitors, and other contractors.
- C. Contractors are expected to don the CSO helmet sticker for the same year they are working for OC SAN.
- D. The CONTRACTOR is responsible for communication of the CSO to its Subcontractors and its employees.
- E. The CONTRACTOR shall develop and maintain its own safety orientation (see section 4.2.D.13), which is to be provided to its employees and Subcontractors. The CONTRACTOR's safety orientation is to include overview of the Work, hazards, and controls to be taken, location of first aid kit and other emergency supplies, PPE requirements, emergency assembly process and location, etc.
- F. The CONTRACTOR's safety orientation is expected to be distributed to every Contractor prior to Work being performed. The CONTRACTOR's safety orientation is also required to be updated at least annually.

4.7. JOB HAZARD ANALYSIS

- A. Certain activities that are part of the Project shall trigger additional safety evaluation and review by OC SAN. The CONTRACTOR is required to participate in the completion of this document prior to the start of the Work. The CONTRACTOR is required to notify the ENGINEER at least two weeks prior to initiation of the tasks below and when the Work activities or environment changes, unless otherwise stated elsewhere. Evaluations are as follows:
 - 1. Confined Space Entry Job Hazard Analysis (JHA)
 - 2. Use of OC SAN Equipment – In the event Contractors are permitted to use OC SAN-owned equipment, Contractors shall be required to demonstrate proficiency on the specific equipment, as well as knowledge of the applicable regulatory requirement(s), and to complete a specific hold harmless agreement prior to such use.
 - 3. Hot Work Permit
 - 4. Energized Electrical Work Permit
 - 5. Hazardous Materials Usage – All hazardous materials identified by Cal/OSHA as a carcinogen or reproductive hazard are subject to use restriction and/or prohibition from use on OC SAN facilities. In addition, the CONTRACTOR shall provide a written plan of how the CONTRACTOR and OC SAN employees will be protected from exposure to these materials. A JHA will be conducted by OC SAN with mandatory participation by the CONTRACTOR for operations involving these materials.
 - 6. Cement Deep Soil Mixing (CDSM) - Develop a hazard mitigation plan for controlling exposures to hazardous substances to air, water, and soil.
 - 7. Aboveground Fuel Storage Tank Permit.
 - 8. Concurrent Work/Dual Employer Work Activities – If concurrent Work activities within the same general area are to be performed at the same time by more

than one contractor, a permit shall be obtained by the Contractor at least one week before the Work is scheduled to begin.

9. Respiratory hazards - Whenever harmful dust, fumes, mists, vapors, or gases exist or are produced by construction activities in quantities giving rise to harmful exposure to employees, such hazards shall be controlled. Engineering controls are the preferred means of controlling respiratory hazards. If the engineering controls have not reduced the exposure for the employees below the Permissible Exposure Limit (PEL), the CONTRACTOR shall implement administrative controls and provide PPE for their employees if needed.
10. The CONTRACTOR must provide industrial hygiene data showing that employees are not being exposed over the PEL for the PPE they have selected. As new data is collected, it shall be submitted to Risk Management for review.
11. Spray Painting, Blast Cleaning, or Hydro Blasting – Contractors shall not conduct any spray painting, blast cleaning, or hydro blasting without written authorization from OC SAN. Authorization will only be provided after receipt and review of an acceptable detailed plan that addresses, as a minimum, the following:
 - a. All spray application of coatings, blast cleaning, or hydro blasting at the Project site which is performed outside of a totally enclosed booth shall be kept to a minimum. Alternative application methods (brushing, rolling, etc.) or off-hour Work shall be considered and may be required to minimize potential overspray damage.
 - b. If spray painting, blast cleaning, or hydro blasting is required, the CONTRACTOR shall submit a work plan for review by the ENGINEER in advance outlining specific areas where the Work will take place. The work plan shall be submitted using OC SAN's PCMS. The work plan must include a schedule and the preventative measures utilized to eliminate the possibility of overspray damage to facilities and vehicles.
 - c. Tenting or other means of containment shall be utilized for spray coating applications. A minimum of 3 test panels, 2 feet by 3 feet, with a contrasting background to the material being sprayed, shall be placed 10 feet outside of the local work area at elevations to be determined by the INSPECTOR. Spraying shall be stopped if the test panels exhibit overspray.
 - d. Tenting and/or wet blasting shall be considered when grit blasting. Under no circumstances shall dust or coating particulates be permitted to leave the immediate work area.
 - e. Spraying/Blasting operations shall be stopped if winds exceed 5 mph.
 - f. A minimum 14-day notice shall be required prior to painting and blasting to provide adequate notification prior to the scheduled start date.
 - g. For Work within Treatment Plant Sites, the CONTRACTOR shall provide and install signs at Plant entrances, work areas, and roadways to direct traffic as needed to alternate parking areas to prevent overspray damage to vehicles. Parking areas immediately downwind or otherwise in high- risk areas shall be delineated to prevent vehicles from parking in these areas.
 - h. Any damage incurred by OC SAN or its employees due to paint, solvent or sandblasting materials from blasting or coating operations shall be promptly

repaired by the CONTRACTOR to the satisfaction of OC SAN and its employees at no cost to OC SAN.

B. Regulatory Requirements

1. Scaffold Erection and Use – OC SAN requires a copy of the CONTRACTOR's competent person evaluation and sign off on all scaffolding erected. Signed copies of the CONTRACTOR's competent person evaluation shall be forwarded to OC SAN no later than the day the scaffolding is completed and prior to scaffolding use. Scaffolding shall be inspected daily prior to use.
2. Cranes/Hoists – A copy of the operator's training certification shall be submitted to OC SAN prior to any crane use. Certifications shall be submitted using OC SAN's PCMS. The CONTRACTOR shall obtain a permit from OC SAN for any crane lift over a building/structure at least one week prior to the scheduled crane lift.
3. Excavation and Trenching – The CONTRACTOR is required to provide a copy of the applicable Cal/OSHA permit, the name of the designated CONTRACTOR's competent person and stamped engineering designs as applicable. Documentation shall be provided prior to the start of the excavation.
4. Fall Protection – The CONTRACTOR shall submit a fall protection plan for all Work exceeding 6 feet in elevation. The plan shall be submitted using OC SAN's PCMS. The plan shall include a licensed (California) engineer's approval for the use of all lifelines and specify how an employee will be rescued in the event of a fall. Documentation shall be provided prior to the start of the Work. All Service Vendors shall submit a fall protection plan for all Work exceeding 4 feet in elevation.
5. Demolition – Demolition Work on OC SAN facilities may contain regulated quantities of asbestos or lead. The CONTRACTOR shall be licensed by the California Department of Industrial Relations for demolition involving these materials. The CONTRACTOR shall submit copies of appropriate licenses, work plans, SCAQMD notifications as applicable, copies of worker training certificates and third-party monitoring registrations as applicable. OC SAN will be responsible for the disposal of all hazardous waste generated from these operations. Notifications shall be in accordance with applicable Federal, State, and local requirements. Specifications Section 01900 Hazardous Materials Mitigation and Controls contains additional guidance for asbestos, lead, and other regulated wastes.

4.8. CONTRACTOR / SUBCONTRACTOR SAFETY NON-COMPLIANCE

- A. OC SAN has the right to stop any Work activity deemed unsafe. Work may resume once the unsafe condition or behavior is corrected.
- B. Non-compliance with these Contractor Safety Standards by Contractors' employees will result in a notification to the CONTRACTOR's supervisory personnel when observed by Risk Management or OC SAN staff.
- C. Willful or repeat non-compliance with these Contractor Safety Standards may result in the ENGINEER or Risk Management requiring the Contractors' employee(s) to be excluded from the site for a period designated by OC SAN.
- D. Failure of the CONTRACTOR's onsite project management to enforce the Progressive Disciplinary Action Program included in the SSSP may result in the CONTRACTOR's onsite project manager's removal from the Project.

- E. The removal procedure may be accelerated and/or expanded to include removal of the Contractor's entire workforce by the ENGINEER or Risk Management where the violation of these Contractor Safety Standards is widespread, or where the Contractor does not demonstrate good faith effort.
- F. The CONTRACTOR and Contractors that are unresponsive to safety issues or that have an unsatisfactory safety evaluation may be deemed ineligible to bid additional contracts for a period designated by OC SAN.
- G. Contractors may report legitimate unsafe actions/activities of any other Contractor to the ENGINEER or Risk Management.
- H. The CONTRACTOR and Contractors (through the CONTRACTOR) shall submit to the ENGINEER a list of (a) Competent Persons and Qualified Persons as applicable to the Work, and (b) First Aid / CPR trained personnel prior to starting the Work. Each list shall be clearly dated and updated as required throughout the Contract duration. Each time the list is updated, a copy shall be provided to Risk Management and the ENGINEER. The list shall be submitted using OC SAN's PCMS.
- I. Contractors are responsible for handling, daily, rubbish and debris generated by their Work. The CONTRACTOR must keep the workplace clean.
- J. The CONTRACTOR will cooperate in inspections by OC SAN, Cal/OSHA, and other regulatory agencies.
- K. The CONTRACTOR will abate all safety violations or findings made by those agencies and report their corrections to the ENGINEER and Risk Management.
- L. The cited Employer(s) shall submit copies of all regulatory agency citation notices to the CONTRACTOR (if applicable), the ENGINEER or Risk Management immediately upon receipt. The CONTRACTOR shall ensure that it posts copies of all citations as required by Cal/OSHA or the applicable regulatory agency. Citations shall be submitted using OC SAN's PCMS.

4.9. SUBSTANCE ABUSE PREVENTION POLICY

- A. Purpose
 - 1. To maintain a safe, healthful, and efficient work environment, and to minimize absenteeism and tardiness, Contractors shall implement a Substance Abuse Prevention Policy that, at minimum, includes screening and testing as prescribed by this section.
 - 2. Contractors' employees who will be on site, drug testing shall be completed at least 30 days prior to the effective date of the Notice to Proceed. Contractors must only provide a list of those employees who have successfully passed their drug screening. OC SAN does not want and cannot accept the actual results. The section requirement for submission of testing results does not apply to consultants working under an OC SAN's professional services agreement.
 - 3. Contractors' programs shall utilize a testing procedure and protocol that mirrors or exceeds US DOT parameters and protocols with the exception that the testing results will adhere to "zero tolerance" for the presence of alcohol detected in the system. This testing protocol will be required for all post-incident and for reasonable suspicion assessments of individuals.
 - 4. An industry-accepted, commercially available, drug screening protocol can be used for pre-project assessments for workers, providing all positive result cases are referred for participation in the formal testing program. The screening

method shall be capable of detecting, at a minimum, nanogram per milliliter (ng/ml) quantities of methamphetamine, MDMA (Ecstasy), THC (marijuana), cocaine, amphetamines, opiates, phencyclidine (PCP), and benzodiazepines in human body fluids.

5. This drug screening protocol can be utilized to obtain preliminary results only and would be unacceptable for obtaining any results which could have a legal impact, such as post-incident and for suspicion assessments. The drug screening method must be scientifically derived with supporting studies confirming the detection capabilities and sensitivities.

B. Requirements

1. The CONTRACTOR shall implement and enforce a policy that prohibits the possession, distribution, promotion, manufacture, sale, use or abuse of illegal and unauthorized drugs, drug paraphernalia, controlled substances and alcoholic beverages by its employees, agents, or any person otherwise under the control of the CONTRACTOR, including employees and agents of Contractors while on the work site while working on the Project. Further, employees shall be prohibited from reporting to the premises under the influence of drugs or alcohol.
2. The Policy must apply to all personnel, including but not limited to regular, part-time, probationary, casual and contract employees of the CONTRACTOR, as well as to employees and agents of Subcontractors. The CONTRACTOR shall take whatever legally permissible steps are necessary or appropriate to enforce compliance with this policy.
3. Workers governed by this policy may possess a prescription medication in its original container and prescribed for current use of the person in possession by an authorized medical practitioner; provided that the Contractor provides a mechanism to ensure that employees taking prescription medicine inform the Contractor about potential side effects of medication which may affect the employee's work ability (particularly their alertness and coordination), safety and the safety of others.
4. At a minimum, any worker shall be subjected to a pre-project drug screening protocol for drug use in accordance with the provisions of the Contractor's program. A negative assessment result must be obtained prior to commencement of employment on this Project.

C. Drug Screening. Any worker shall be subject to a drug screening protocol prior to commencing Work on the Project in accordance with the Contractor's program:

1. At the time of the Project safety orientation training. No person showing preliminary positive screening results will be permitted to work on the Project.
2. All preliminary screening results will be managed as medical records that protect the employee's confidentiality.

D. Drug and Alcohol Testing. Any worker shall be drug and alcohol tested in accordance with the provisions of the Contractor's program:

1. When preliminary drug screening results are positive indicating potential substance abuse and effected worker elects to have validated testing results. Prescription medication and potential test interferences will be considered during the collection and analysis process.
2. When involved in any type of incident, whether injury or property damage was incurred or not.

3. For reasonable suspicion of impairment which has been validated by a third party.
- E. Any employee who fails or refuses to take a drug screen or drug and alcohol test in accordance with the terms of the Contract Documents shall be removed from the Project.

5. GENERAL SAFETY REQUIREMENTS

5.1. ATMOSPHERIC MONITORING EQUIPMENT

- A. Wastewater facilities are commonly associated with a potential for hazardous atmospheres because of gasses present in the wastewater or inherent to the treatment process. Contractors who enter wastewater process areas (including confined spaces such as vaults, pits, tanks, basins, digesters, and excavations greater than 5 feet in depth) are to have on their person an atmospheric monitor that measures for Hydrogen Sulfide, Oxygen, Carbon Monoxide, and flammable gasses (Lower Explosive Limit (LEL)). When it is reasonable to suspect that other atmospheric hazards may be present, those hazards must be monitored as well.
- B. Contractors entering these spaces are responsible for the provision and safe use of said equipment. All air monitoring equipment must be fully functional, maintained, tested, and calibrated as required by the manufacturer's instructions before each use. Air testing equipment shall be UL classified for use in Class I, Division 1, Groups A, B, C, and D hazardous locations as defined by the National Electrical Code.
- C. Prior to use, employees must be trained per manufacturer requirements on the use, limitations, and alarm modes of each air-testing device that they use.
- D. Employees must immediately leave a work area whenever an equipment alarm sounds due to any of the following alarms:
 1. Low or high oxygen level (acceptable range is 19.5% to 23% oxygen).
 2. Combustible gas detected above 10% LEL.
 3. Set point for a toxic gas level is reached (e.g., 10 ppm hydrogen sulfide)
 4. Sensor failure
 5. Low battery alarm.
- E. Equipment must be carried with the employee or placed immediately adjacent to the work area and set to operate in a continuous monitor mode. If working in a group and not mobile, at least one employee in the group shall have an atmospheric monitor that is properly calibrated and on. The monitor can provide coverage for a 10-foot radius. If the group is working over an area greater than 10 feet, then more monitors will be needed to provide coverage.
- F. Air Contaminant Exposure
 1. Contractors are responsible for determining if their employees are being exposed to harmful air contaminants or chemicals with recognized standard industrial hygiene analytical methods.
 2. If Contractors determine that their employees are being exposed over the PEL then they must implement protective measures for their employees following Cal/OSHA Construction Standards Section 1528.
 3. If the area is new construction, and where approved by the ENGINEER and Risk Management, the use of personal air monitors can be waived temporarily.

5.2. ASBESTOS

- A. Asbestos is to be handled only by a trained and licensed abatement contractor. Abatement contractor must be approved in accordance with applicable Federal, State, and local requirements to perform removal of asbestos containing materials (ACM).
- B. OC SAN will make known building materials known to contain or suspected to contain asbestos to the CONTRACTOR. The CONTRACTOR shall identify the materials within the structure or system prior to any construction, remodeling, or demolition activities. The CONTRACTOR shall properly protect in place or abate materials identified in the Contract Documents.
- C. Upon discovery of any ACM or presumed asbestos containing materials (PACM), Contractors shall stop Work in such areas and notify the ENGINEER and Risk Management.
- D. All asbestos abatement activities must follow Cal/OSHA, National Emission Standards for Hazardous Air Pollutants (NESHAP), Asbestos Hazard Emergency Response Act (AHERA), and South Coast Air Quality Management District rules and regulations.
- E. The abatement contractor shall prepare an Asbestos Abatement Plan in accordance with Specifications Section 01900 Hazardous Materials Mitigation and Controls.

5.3. HAZARDOUS (CLASSIFIED) LOCATIONS

- A. Electrical equipment and wiring that is used in these areas must meet specific electrical code requirements for hazardous areas.
- B. Before considering the installation of equipment in any process area, the area classification of that location should be determined by reviewing its area class map and/or checking with Risk Management and the ENGINEER.
- C. Work that may produce a spark or other source of ignition, or the opening of enclosures with energized electrical systems in Class I, Division 1 or Class I, Division 2 locations will require Hot Work Permits and may require specialized tools, equipment, and training.
- D. Requirements for Activities in Classified Areas
 - 1. No vehicle parking will be permitted in classified areas.
 - 2. Personal electronic devices are not permitted in classified areas. This includes cell phones, personal digital assistants, laptops, cameras, etc. The only exceptions to this policy are those devices specifically approved by the Risk Management. All non-approved devices shall be kept out of the classified area. Powering down a device is not sufficient to comply with this requirement.
 - 3. In cases where use of unapproved devices is unavoidable, continuous atmospheric monitoring for combustible gases shall be provided at the location where the device is being used. If the monitor alarms at any time, personnel are to cease use of the unapproved device, de-energize any potential ignition sources, and evacuate the classified area until such time that the atmosphere has been tested as clear and management approves entry back to the work area.
 - 4. Any activity in a classified area that could provide a source of ignition must be reviewed and approved in a Hot Work permit process prior to the start of such activity.

5.4. BARRICADES

- A. Barricades or fencing is required around excavations, holes or openings in floor or roof areas, edges of roofs and elevated platforms, around certain types of overhead work, and wherever necessary to warn, protect people, or vehicles against falling in, through or off.
- B. Barricades used around an opening in the floor or roof, at the edge of a roof or along an elevated platform shall meet the Cal/OSHA requirements of a standard guardrail.
- C. Barricades may also be used to isolate people (such as employees of other crews or employers, other project, OC SAN personnel, and the public) from Work activities as required by the activity, potential hazards created by the activity, or the location of the activity.
- D. Barricades must be of suitable construction and selected for the area of use (i.e., blinker type barricade for high vehicle traffic areas).
- E. To ensure the safety of the public, the CONTRACTOR shall provide and maintain adequate protection, such as chain link fences, gates, and barricades, to separate work areas from areas outside job site limits.
- F. A fall protection system accepted by the ENGINEER and Risk Management in writing shall be provided around excavation and trench leading edges.
 - 1. If the trench or excavation depth is greater than 6 feet: barricades, guardrails, or chain link fencing shall be provided around all open sides. Any person working along the unprotected edge of the trench or excavation shall be protected by an approved fall restraint system.
 - 2. If the trench depth is less than 6 feet, a warning line system accepted by the ENGINEER and Risk Management in writing, placed at least 6 feet from the leading edge, may be used in lieu of barricades, guardrails, or chain-link fence.
- G. Portable fencing shall be installed around construction work areas, the CONTRACTOR storage areas, and the CONTRACTOR's heavy equipment if they are not otherwise protected within the confines of the Project's perimeter barricade.

5.5. FENCING

- A. Chain link fencing shall be free from barbs, icicles (excess galvanizing material that may form sharp projections) or other projections that may cause injury.
- B. Fencing must be in good repair and installed to ensure stability of the fencing from being knocked over by employees or the public.
- C. Portable fencing shall be installed/braced to prevent being blown over during windy conditions.
- D. Base supports of portable fencing shall be installed/ placed to eliminate tripping hazards when fencing is placed adjacent to sidewalks and walkways.
- E. OC SAN reserves the right to prohibit use of temporary fence panel systems that require the use of a tubular or pedestal base support system that presents a potential trip hazard to pedestrians or obstruction for vehicles. Nuisance screening shall not be used in traffic areas unless approved by the traffic control engineer and accepted by the ENGINEER.

5.6. HOT WORK

- A. This section covers the provisions to prevent injury, loss of life, and loss of property from fire or explosion because of hot work.

- B. Hot work includes, but is not limited to, grinding, cutting, welding, brazing, soldering, heating, heat treating, thawing pipe, powder-driven fasteners, hot riveting, fusion welding, torch-applied roofing, torch cutting, sawing, concrete chipping, heat guns, or other operations that generate heat, flames, arcs, sparks, or other sources of ignition.
- C. Contractors shall only conduct hot work under a permit issued by OC SAN. Risk Management will issue a hot work permit for all hot work activities conducted at an OC SAN facility. The hot work permit is only valid for one day, except where approval for longer duration hot work permits has been provided by Risk Management.
- D. Contractors shall notify Risk Management at least 24 hours in advance of Work that requires a hot work permit.
- E. The Contractor's Permit Authorizing Individual (PAI) will initiate the hot work permit. Risk Management will review the proposed hot work permit. If acceptable, Risk Management will endorse the hot work permit with a signature.
- F. The Contractor's Person Performing Hot Work (PPHW) shall verify all hot work equipment is in good working condition and sign the hot work permit.
- G. Where required, the Contractor's fire watch will close out the permit by providing the time that fire watch duties were completed and provide their initials.
- H. The Contractor's PAI, PPHW, and fire watch shall review the hot work permit, inspect the work site, implement required controls, and add additional controls as identified by the CONTRACTOR.
- I. Hot work permits are only good for one day.
- J. Hot work permits shall be returned (hand delivered or emailed) to Risk Management for retention.
- K. Contractors have sole responsibility for provision of fire monitoring, fire protection system, fire watch, and site preparation required by the hot work permit, including, but not limited to, atmospheric monitoring, ventilation, personal protective equipment, firefighting equipment, fire watch, relocation of flammable and combustible materials, or covering flammable and combustible materials with approved fire blankets, curtains, or pads, where required by the permit.
- L. The hot work permit shall be conspicuously posted at the job site or work area.
- M. A fire watch shall be designated by name on the hot work permit. The designated fire watch shall remain present at the hot work location throughout the duration of the hot work activities and at least 30 minutes beyond completion of those hot work activities. OC SAN reserves the right to waive the 30-minute fire watch rule, depending on the hot work scope, and this can be authorized on the permit by the PAI and Risk Management. The fire watch shall observe the hot work operator, conduct atmospheric monitoring, and inspect the area for flammable and combustible hazards. The fire watch is permitted to perform additional tasks; however, those tasks shall not distract him or her from their fire watch duties. These tasks may include moving partitions relating to hot work, sweeping in the immediate area, and minimal assistance to the operator.
- N. Contractors shall have a Hot Work Program for fire prevention during hot work activities. This Program shall meet or exceed the requirements of NFPA 51B, "Standard for Fire Prevention during Welding, Cutting and Other Hot Work".

- O. An approved fire extinguisher and/or other fire protection equipment are to be provided by the Contractors for each hot work operation in accordance with Cal/OSHA and local Fire Marshal / Fire Code requirements. This equipment shall be located on the same elevation and within 5 feet of the hot work activity.
- P. In areas where it is reasonable to expect that enriched oxygen or flammable combustible gases, vapors, dusts, or liquids may be present in sufficient concentrations to cause a fire or explosion, continuous air monitoring is required. When atmospheric monitoring is required, the Lower Explosive Limit must be non-detectable (0% LEL) and oxygen concentrations must be within acceptable limits of 19.5 and 23.5 percent oxygen, prior to any type of burning, welding, or hot work being conducted by the Contractor. Air monitoring will be required around or near any areas that may pose a potential fire or explosion threat from flammable or combustible vapors.
- Q. Welding fumes and particulates must be ventilated to protect hot work operators, fire watch, and personnel working adjacent to the hot work. Respirators approved by the National Institute of Occupational Safety and Health (NIOSH) must be worn for protection against welding fumes, hexavalent chromium, etc., as required.

5.7. CELL PHONES

- A. Cell phones can be a distraction in the workplace and contribute to serious injuries or fatalities. Consideration is to be given as to when and where a person uses their cell phone so as to avoid injury.
- B. Contractors shall not operate heavy equipment or vehicles when using cell phones.
- C. Cell phones shall not be used in classified locations where there is a potential explosive atmosphere, unless if the individual has on them a properly calibrated 4-gas meter.
- D. It is recommended that Contractors not walk and talk while on the phone. Phone calls or responding to text messages and/or emails, should be completed from a safe place on the job site.

5.8. COMPRESSED GAS CYLINDERS

- A. All cylinders must be secured and transported in a vertical upright position.
- B. Oxygen and fuel gas cylinders must be separated at least 20 feet or by a 5-foot-high barrier with a 1/2-hour fire rating when in storage. The cylinders shall be placed away from equipment with potential to contact the cylinders resulting in vessel rupture.
- C. Cylinder valves shall be turned to the off position if left inactive for 30 minutes or longer.
- D. Cylinders designed for valve protection caps must have the valve protection caps installed when in storage or when being transported. Cylinder storage areas shall have appropriate warning signage posted. Appropriate fire-fighting equipment must be provided for each cylinder storage area.
- E. Cylinders, hoses, and fittings shall be checked for leaks and damage on prior to use.
- F. Cylinders must be labeled as to the nature of their contents per NFPA requirements and the Cal/OSHA Hazard Communication Standard.
- G. Cylinders shall not be taken into confined spaces.
- H. Torches and hoses shall not be left connected to cylinders overnight.

- I. Torches and hoses shall not be stored in unventilated gang boxes or storage containers.
- J. Flashback arrestors and check valves shall be installed in accordance with manufacturer's instruction on all oxygen-fuel torch sets.

5.9. CONCRETE AND MASONRY CONSTRUCTION

- A. Contractors must guard all protruding reinforcing steel, form stakes, or other members to eliminate impalement hazards.
- B. Contractors must create and follow a safe work procedure to remove concrete falsework. The procedure must be reviewed by employees removing the falsework and saved with the Project files.
- C. Contractors must not remove any forms or shoring until a determination has been made by the testing lab and structural authorized representative that the concrete has gained sufficient strength to support its own weight and that of superimposed loads.
- D. Contractors must not place loads on any concrete structure until concrete has reached a compressive strength predetermined by the ENGINEER.
- E. Where concrete shoring/reshoring is employed, a shoring/reshoring plan specific to the Project shall be available for review at the job site.
- F. Deviations from the shoring/reshoring plan will require the issuance of a new shoring/reshoring plan that has been stamped by a California licensed Professional Engineer.
- G. The addition of superimposed loads on the floor (such as equipment and/or materials) not considered in the reshoring plan shall be construed as a deviation from the plan.

5.10. POURING AND PUMPING OPERATIONS

- A. Permanent and temporary power lines shall be identified prior to the start of a concrete pour. Appropriate safeguards shall be implemented for the pumping, pouring, and finishing operations.
- B. A site traffic control plan shall be established for concrete truck traffic. Trained spotters and flaggers shall be used as necessary for worker and public safety.
- C. Employees involved in pouring and finishing activities shall have appropriate personal protection equipment, including gloves, mud boots, and eye protection. Concrete or cementitious products shall not contact skin or clothing.
- D. Concrete truck washout areas shall be in an area acceptable to the ENGINEER and located out of vehicular and pedestrian travel areas.
- E. Absorbent pads or the equivalent shall be provided for the pump and concrete trucks when the truck to pump transfer occurs in a public street or other public area.
- F. A site logistics plan shall be prepared for each pump location and shall include provisions for concrete truck traffic routing and control, as well as pedestrian traffic routing and control (if applicable).

5.11. MASONRY CONSTRUCTION

- A. Masonry walls shall be braced and/or supported as required by Cal/OSHA and/or local requirements. A clear buffer area shall be maintained during construction and work areas shall be maintained in a workmanlike manner.
- B. Clear Zone, unauthorized personnel shall be prohibited from entering the work area.

5.12. CUTTING, GRINDING AND PROFILING

- A. Dry cutting, grinding, and profiling of concrete or masonry shall be prohibited except in instances where it is determined in a manner consistent with applicable safety and health standards that the use of water in the cutting, grinding, or profiling is not feasible.
- B. If it is determined that the use of water is infeasible:
 - 1. Contractors shall use work practice controls to control the dust, such as a vacuum with a high efficiency particulate air filter (HEPA), or other dust control system.
 - 2. Any dry cutting which occurs shall be done in a designated area away from other employees if possible; and
 - 3. Contractors shall provide affected employees with appropriate respiratory protection as part of a respiratory protection program in accordance with applicable Cal/OSHA standards.

5.13. CONFINED SPACE ENTRY

- A. Contractors shall have a written confined space program in accordance with Cal/OSHA safety orders. Contractors' confined space programs shall not conflict with and may be used to supplement OC SAN's confined space program, whichever is more stringent.
- B. Contractors shall not perform any Work in a confined space until a Confined Space JHA is completed by Risk Management with mandatory participation by the Contractor for both non-permit required and permit-required confined spaces. A separate JHA will be completed for each confined space entry location unless Risk Management deems that one JHA is sufficient to cover related confined spaces. Completion of the Confined Space JHA requires the Contractor to submit the following to Risk Management for review five days prior to the start of the job:
 - 1. Proof of training for entrants, attendants, supervisors, and rescue personnel
 - 2. A copy of the Contractor's written confined space program
 - 3. Site-specific entry procedures
 - 4. Fall protection plan
 - 5. Rescue procedure
 - 6. Ventilation plan
 - 7. Purge plan (required for gas and chemical systems)
 - 8. Hot work permit (if applicable to the Work)
 - 9. Scaffolding plan (if applicable to the Work)
 - 10. Respiratory protection program, including fit testing and PFT results (if required for the Work)
 - 11. Daily entry permit
 - 12. Copies of the energy control procedures (LOTO) prepared by OC SAN Operations and Maintenance Department (O&M)
 - 13. Safety data sheets for chemicals brought or used in the confined space
 - 14. Other required documentation for confined space entry

- C. The Confined Space JHA will address:
1. OC SAN experience with the space, known and potential hazards that could be encountered during the confined space entry.
 2. Any special precautions that must be taken by the Contractor employees who are working in or around the confined space.
 3. Compliance with regulatory requirements and Contractor Safety Standards.
 4. Method of coordination for entry operations if more than one General Contractor is entering the space or if OC SAN employees will be entering the space.
- D. Contractors shall identify and designate those individuals who are educated, trained, competent and/or qualified to perform specific confined space- related duties, including but not limited to, Entry Supervisors, Attendants, Entrants, hazard identification and controls, entering confined spaces, conducting atmospheric monitoring, providing for rescue, and ventilation. Confined space responsibilities shall be listed on the entry procedure and/or permit.
- E. Contractors shall provide required equipment for entry and rescue and ensure that it is properly inspected, tested, maintained, and used in accordance with manufacturer's instructions and applicable safety programs.
- F. Ventilation plans for live sewer entry shall be prepared by a CSP, Certified Industrial Hygienist (CIH), or Professional Engineer (PE).
- G. Contractors shall identify, evaluate, and qualify assigned Rescuers or outside emergency services, and develop and implement procedures for summoning rescue.
- H. The CONTRACTOR is responsible to inform all Subcontractors of the terms discussed at all pre-job meetings.
- I. After a confined space entry, the Contractor shall conduct a debriefing meeting with the entry team to discuss any hazards encountered during the confined space entry. If the Contractor encounters a hazard(s) that was not noted on OC SAN Job Hazard Analysis, then the Contractor must alert Risk Management or the INSPECTOR to those hazards in writing
- J. Contractors must abide by the applicable Cal/OSHA and any other recognized standards for all confined space entry operations and furnish all appropriate personnel, equipment, and support.
- K. Contractors' personnel must be trained and certified in the hazards of confined space work, including rescue procedures and provisions, the use of respiratory equipment, and instructions as to the hazards they may encounter. Contractors shall submit all certifications and training documents prior to any confined space entry.
- L. Contractors shall develop a written, understandable, and detailed confined space operating and rescue procedure as part of their entry permit. This procedure must be made available to all affected employees.
- M. Contractors are required to provide all necessary entry and rescue equipment required for all entries into confined spaces (tripod, full body harness, and lifeline or equivalent, etc.) as required by the applicable regulatory Standards. Fire Department shall not be considered first responders for rescue.

- N. Prior to entry into a confined space, Contractors shall ensure all lines that may convey flammable, injurious, or incapacitating substances into the space are disconnected, blinded, or blocked off by other positive means in accordance with Cal/OSHA Lockout/Tagout regulations and Section 5.43 for Control of Hazardous Energy (LOTO).
- O. Prior to and continuously throughout entry into confined space, the Contractor shall test the air with an active (pump model) atmospheric monitor for: (1) oxygen content, (2) flammable gases and vapors, and (3) potential toxic air contaminants (CO; H₂S, other as required). A written record shall be made and kept at the confined space entry point. Readings shall be recorded on an atmospheric log every 15 minutes. Contractors can seek a variance from Risk Management for logging readings at a different interval.
- P. Contractors shall conduct stratified testing of each confined space before entering if there is the potential of gas to have stratified. Stratified sampling will include lowering the sampling hose at approximately 4-foot intervals and waiting sufficient time for the sampling pump to pull the air to the monitor sensors.
- Q. All entries into active, ponded, or live sewer systems shall ensure compliance with Title 8 CCR 5157 Appendix E Sewer System Entry.
 - 1. Contractors entering OC SAN active sewer systems who elect to use ventilation, in lieu of atmosphere-supplying respirators, must submit a Ventilation Plan. This plan shall be a component of the Confined Space Entry Procedures and be reviewed and signed by a PE qualified to practice in the state of California, CSP, or a CIH prior to Risk Management review.
 - 2. The plan must include, but is not limited to:
 - a. Determination of the internal size (volume) and configuration of the permit space.
 - b. How have the physical properties (molecular weight, vapor pressure, etc.) of the atmospheric hazards been considered in the design of the Ventilation Plan.
 - c. The capacity of each piece of equipment being used, and does the capacity match the requirements of the space?
 - d. The air exchange rate required to maintain acceptable entry conditions.
 - e. Assessment of whether the Work or activities being performed within the sewer will contribute to the atmospheric hazard.
 - f. Description of mitigation measures
 - g. Calculations demonstrating how identified hazards are mitigated.
 - h. A consideration of how the atmosphere will be affected by any hazards brought into the confined space such as hot work, hazardous vapors from industrial coatings, etc.
 - 3. The Contractor's Ventilation Plan must be submitted and accepted by the ENGINEER and Risk Management prior to placing workers or equipment into an active sewer.
 - 4. In absence of an accepted Ventilation Plan, the Contractor shall make entry into the active, ponded, or live sewer system under supplied air. The Contractor shall refer to respiratory protection section for additional requirements.

- R. The confined space will be emptied to extent possible by OC SAN or as detailed in Contract Documents. The Contractor is responsible for flushing, cleaning, and purging of flammable or injurious substances to the extent feasible. The Contractor shall provide the proper ventilation equipment.
- S. Whenever a hazardous atmosphere and/or oxygen deficiency cannot be ensured through ventilation, the Contractor shall provide NIOSH approved respirators to affected employees. Employees using respiratory protection shall be involved in a comprehensive respiratory protection program in accordance with applicable Cal/OSHA standards. The level of respiratory protection shall be adequate to safeguard persons against the hazardous atmosphere.
- T. Where a Standby Rescue Employee is required, the Standby Rescue Employee must have a valid certificate in First Aid and CPR training from the American Red Cross, or equivalent training verified by documentary evidence.
- U. Visual contact or two-way radio communication must be available always.
- V. If radios are selected for communication, the Contractors shall provide the radios.
- W. When the CONTRACTOR arranges to have employees of a Subcontractor perform Work that involves a confined space entry, the CONTRACTOR shall:
 - 1. Inform the Subcontractor that the workplace contains confined spaces and entry into them is allowed only through compliance with a confined space program that meets the requirements of the CCR Title 8 Sections 1950 through 1961.
 - 2. Inform the Subcontractor of the elements including the hazards identified and the host employer's experience with the spaces that may classify it as permit required.
 - 3. Inform the Subcontractor no Work is to be performed in a confined space until a Confined Space JHA is completed by Risk Management with mandatory participation by the Subcontractor for both non-permit required and permit-required confined spaces. The Subcontractor shall follow the submittal requirements outlined in Section 5.13.B.
 - 4. Coordinate entry operations with the Subcontractor when both the CONTRACTOR and Subcontractor will be working in or near the permit required confined space.
 - 5. Debrief the Subcontractor after the permit required confined space operation; ensure that the following questions are asked:
 - a. Was the permit required confined space program followed?
 - b. Were unpredicted hazards confronted or created in the permit required confined space during the entry operations?
 - c. Were all the tools and equipment needed for the confined space entry and rescue on site and in good operating order?
- X. Contractors must establish a means of communication with outside emergency services. Outside emergency services can only be used to provide medical services. Contractors are responsible for rescuing their employees from the confined space.

5.14. UTILITY CONNECTIONS

- A. The CONTRACTOR shall not, or allow any Subcontractor to, make any temporary service connections to electrical, water, air, steam, or other utilities without the written acceptance of the ENGINEER.
- B. Temporary connections shall comply with all applicable Federal, State, and local regulations.
- C. Temporary connections shall be inspected on a regular basis.
- D. Contractors shall not operate any valves or equipment owned by OC SAN or other agency/municipality without authorization.

5.15. CONSTRUCTION AND PERSONAL VEHICLES

- A. Contractors' vehicles must be in authorized areas only. Do not block or obstruct intersections, fire lanes, fire hydrants, traffic lanes, driveways, or parking lot entrances. Offending vehicles may be towed or ticketed without notice at the vehicle owner's expense.
- B. Personal vehicles are not permitted within the treatment plants, except where authorized by the Contract Documents or the ENGINEER and Risk Management.
- C. Company and personal vehicles parked within the treatment plants shall conduct a 360-degree vehicle walk around prior to operation to ensure OC SAN structures or assets are not struck.
- D. Contractors' fleet vehicles entering and/or working at the site must have the company name/identification clearly displayed on the vehicle with door magnets or sticker labels. Window tint decals are not acceptable.

5.16. ASSIGNED WORK AREA

- A. Contractors are confined to their assigned work areas.
- B. Contractors are responsible for enforcing the PPE standards inside the work area.
- C. Wandering throughout the treatment plant and project sites is strictly prohibited.
- D. Contractors are responsible for establishing effective access control to their site.
- E. Contractors shall only travel on permitted roadways or pathways as provided by the ENGINEER or Contract Documents.

5.17. CRANES, BOOM TRUCKS AND HOISTS

- A. The term "crane" as used in this section shall include boom trucks, hoists, and similar truck-mounted cranes.
- B. Prior to commencing any lifting over buildings/structures, the CONTRACTOR shall request a permit at least one week prior to the scheduled lift.
- C. Cranes exceeding three tons rated capacity shall not be used in lifting service until an approved certifying agent has certified the equipment.
 - 1. Cranes that do not have such evidence of inspection shall not be permitted to operate on the Project.
 - 2. A qualified person shall inspect the crane, rigging, and operating mechanism prior to first operation on any work shift. Inspection shall be documented and maintained on the crane. Results of inspections shall be made available to OC SAN upon request.

3. Periodic inspections shall be made at least four times per year. The inspection shall be documented with the latest inspection maintained on the crane. Inspection results shall be provided to OC SAN's PCMS.
 4. Annual and quadrennial (where required) certifications shall be made for each crane. Annual or quadrennial certifications can satisfy one of the periodic inspections. Crane certifications shall be maintained on the crane and submitted using OC SAN's PCMS.
- D. Only qualified persons or service providers shall re-inspect any crane that is involved in any incident or is damaged during set-up or operation, and a new certificate of inspection issued prior to being returned to service.
 - E. Only employees authorized by the CONTRACTOR and trained, or known to be qualified, in the safe operation of cranes shall be permitted to operate such equipment.
 1. Operators shall have valid evidence of current licensing or certification in accordance with State and local requirements. Operators shall not use cell phones or radios while operating unless the cell phone or radio is required for the lift.
 2. Operators not having such evidence where required shall not be permitted to operate applicable machinery (except under terms and conditions prescribed for trainees by applicable regulations).
 - F. All mobile cranes having either a maximum rated boom length exceeding 200 feet or a maximum rated capacity exceeding 50 tons shall be equipped with a load indicating device or a load movement device.
 - G. Cranes shall be equipped with a boom angle or a boom radius indicator and clearly legible load chart in clear view from the operator's position.
 - H. An effective, audible warning and operating signal device (such as a horn) shall be provided on the outside of the crane. The controls shall be in easy reach of the operator.
 - I. When required by the manufacturers or certifying agent's instructions, outriggers shall be set so that wheels or crawler tracks within the boundary of the outriggers shall be relieved of all weight by the outrigger jacks or blocking.
 - J. Plates, pads, or mats shall be used under the outriggers or crawlers of all cranes when a lift exceeds 75% of the capacity of the crane as it is configured for that lift. The plates, pads, or mats shall be of suitable material and size to support the crane on the surface that it is set up on.
 - K. The CONTRACTOR shall ensure that a qualified person visually inspects the crane, controls, rigging and operating mechanism prior to the first operation of any work shift. Records of daily inspections by the operator or other qualified person shall be maintained on the crane and must be available for review upon request.
 - L. Adjustments and repairs to the crane shall only be made by a qualified person.
 - M. An industrial cartridge style fire extinguisher of not less than 10-B: C rating shall be kept in serviceable condition and readily accessible to the operator.
 - N. Lifting operations shall be performed in a controlled manner to prevent loads from being passed directly over workers, occupied workspaces, or occupied passageways.

- O. A qualified signal person shall be provided when the point of operation is not in full and direct view of the operator unless a signaling or control device is provided. Only one person shall be permitted to give signals to the operator. Any employee involved in the operation may give a "stop" signal if such a signal is warranted.
- P. A legible chart depicting and explaining the system of crane signals used shall be conspicuously posted near the hoisting operation.
- Q. All loads shall be rigged by an identified, qualified, and authorized rigger.
- R. No Employee shall be permitted to ride on loads, hooks, or slings of any derrick, hoist, or crane.
- S. Swing radius protection shall be provided where a rotating crane is positioned to operate in areas where persons may be caught between rotating parts and fixed objects or non-rotating crane components.
- T. Tag lines, restraint lines, or guide ropes shall be used on all loads except where their use presents a greater hazard. Such lines or ropes should be insulated to prevent shock and shall not contain knots or splices that may snag on an object.
- U. Cranes shall not be left unattended while the load is suspended unless the load is over water, a barricaded area, or is blocked up or otherwise supported.
- V. Before leaving the crane unattended, which means leaving the controls of the crane, the operator shall:
 - 1. Land or properly secure any attached load
 - 2. Disengage clutch (if applicable)
 - 3. Set travel, swing, boom brakes, and other locking devices unless otherwise specified by the certifying agents
 - 4. Put controls in the "off" position
 - 5. Stop the engine
 - 6. Secure the crane against accidental travel
- W. In all operations where the weight of the load being handled is unknown and may approach the rated capacity, a qualified person shall determine the magnitude of the load unless the crane is equipped with a load-indicating device.
- X. The CONTRACTOR shall provide a qualified person to direct the lift. The qualified person shall see that:
 - 1. The crane is properly leveled for the work being performed and blocked where necessary.
 - 2. The load is well secured and properly balanced in the sling or lifting device before it is lifted more than a few inches.
- Y. A designated person shall monitor the clearance between crane booms, load lines, and loads, and power lines and alert the operator when necessary.
- Z. For power lines rated 50kV, or less, minimum clearance between the lines and any part of the crane or load is 10 feet. For power lines rated over 50kV, minimum clearance between the lines and any part of the crane or load shall be 10 feet plus 0.4 inch for every 1kV over 50kV.
- AA. Magnetic lifting devices are not allowed to lift material or equipment.

5.18. OC SAN OWNED OVERHEAD CRANES

- A. Prior to use of an OC SAN owned overhead crane, the Contractor must complete and sign OC SAN's Hold-Harmless Agreement. A copy of the Hold-Harmless Agreement can be obtained from Risk Management.
- B. The Contractor shall submit a signed training verification letter stating the names of the individual(s) who are trained, competent, and qualified to operate the overhead crane.
- C. The Hold-Harmless Agreement and training verification letter shall be submitted prior to use of the crane using OC SAN's PCMS.
- D. The Contractor is responsible for pre-use inspection of the crane for which authorization has been granted. Inspections must be documented. The Contractor shall not overload the crane and must immediately report any damage to OC SAN.

5.19. RIGGING, SLINGS AND HOOKS

- A. Hoisting hooks shall be of the safety latch-type.
- B. Crane hooks with cracks or with deformation of throat opening more than 15% more than normal opening or more than 10-degree twist from plane of unbent hook shall be removed from service.
- C. Ropes shall be inspected for proper lubrication, excessive wear, broken strands, and proper weaving.
- D. To determine proper time for replacement, a continuing inspection record shall be maintained for hoisting ropes. Conditions such as the following shall be reason for replacement:
 - 1. In running ropes, 6 randomly distributed broken wires in one rope lay, or three broken wires in one strand in one lay.
 - 2. Wear of 1/3 the diameter of outside individual wires.
 - 3. Kinking, crushing, bird caging, or other damage resulting in distortion of the rope structure.
 - 4. In stranding ropes, more than two broken wires in one lay in sections beyond end connections or more than one broken wire at an end connection.
 - 5. Reduction of rope diameter below nominal diameter due to loss of core support, internal or external corrosion, or wear of outside wires.
- E. Fixtures are usually attached to wire rope using wire rope clips. The clips must be attached with the inside curve of the U-bolt against the dead, or short end of the wire rope, and flat clip (saddle) against the live, or long end of the wire rope.
- F. Each day before being used, wire rope slings, metal mesh slings, and natural and synthetic fiber rope slings, and all fastenings and attachments shall be inspected for damage or defects by a qualified person.
- G. Slings shall have permanently affixed tags stating the following:
 - 1. Manufacturer's name or trademark
 - 2. Rated capacity
- H. Chains shall not be used for rigging.

5.20. CRITICAL LIFTS

- A. A Critical Lift Plan shall be prepared and submitted to Risk Management for all lifts that:
 - 1. exceed 75% of the lifting device's capacity as configured for that lift,
 - 2. is deemed a critical lift by the ENGINEER, the INSPECTOR or Risk Management due to potential negative consequences to safety, structure, or schedule,
 - 3. over a building that normally has occupants, or
 - 4. Involves two or more cranes or lifting devices.
- B. A qualified person shall prepare the Critical Lift Plan. The qualified person preparing the plan may be the crane operator, lift supervisor, or rigger. The crane operator, lift supervisor, and rigger shall participate in the preparation of the plan. The plan shall be documented, and a copy provided to the CONTRACTOR and the ENGINEER. The plan shall be reviewed by, and signed by, all personnel involved with the lift.
 - 1. The plan shall specify the exact size and weight of the load to be lifted and all crane and rigging components that add to the weight. The manufacturer's maximum load limits for the entire range of the lift as listed in the load charts shall also be specified.
 - 2. The plan shall specify the lift geometry and procedures, including the crane position, height of the lift, the load radius, and the boom length and angle, for the entire range of the lift.
 - 3. The plan shall designate the crane operator, lift supervisor, and rigger, and state their qualifications.
 - 4. The plan will include a rigging plan that shows the lift points and describes rigging procedures and hardware requirements.
 - 5. The plan will describe the ground conditions, outrigger, or crawler track requirements, and, if necessary, the design of mats, necessary to achieve a level, stable foundation of sufficient bearing capacity for the lift.
 - 6. For floating cranes or derricks, the plan shall describe the operating base (platform) condition and any potential list.
- C. The plan will list environmental conditions under which lift operations are to be stopped.
- D. The plan will specify coordination and communication requirements for the lift operation.
- E. For tandem or tailing crane lifts, the plan will specify the make and model of the cranes, the line, boom and swing speeds, and requirements for an equalizer beam.
- F. This plan shall be submitted to OC SAN at least two weeks prior to the lift.
- G. The Critical Lift Plan shall be reviewed by Risk Management prior to start of the lifting operation.

5.21. DEMOLITION

- A. The CONTRACTOR shall prepare a demolition plan that contains the following:
 - 1. Describe scope of demolition.

2. List construction equipment or materials intended to be used for demolition work and how they will be used.
 3. Identify/describe utilities to be shut off, capped, or otherwise controlled.
 4. Prepare/describe evacuation plan for work area.
 5. Describe processes and controls for preventing unauthorized access to demolition work area.
 6. Describe processes and controls for how access will be maintained for OC SAN O&M or inspectors (if needed).
 7. Describe how construction debris will be loaded out and where. Identify controls for this area.
 8. Provide high level hazard assessment and describe controls to control each hazard.
 9. Describe dust control measures to be employed.
 10. Prepare/describe fire prevention measures to be employed.
 11. Describe hazard warning devices to be used.
 12. Identify personal protective equipment required for the protection of the head, eyes, ears, respiratory system, hands, feet, and other parts of the body.
 13. Identify competent persons who will be performing inspections during demolition to detect hazards resulting from weakened or deteriorated floors, walls, or loosened material.
 14. Submit shoring drawings and scaffolding drawings where applicable.
 15. Utility companies shall be notified, and all utility service shut off, capped, or otherwise controlled, at the building or curb line before starting demolition. The CONTRACTOR is responsible to verify that these actions have been taken.
 16. The CONTRACTOR shall develop an Emergency Call List for all known utility owners prior to the start of demolition activities.
 17. A site plan shall be marked up to show the locations of known utilities, and the nearest identified shut-off valves/controls. This plan shall be available in the CONTRACTOR's site office. The ENGINEER and Risk Management shall be provided with a copy.
 18. The CONTRACTOR shall research available documents to identify all utilities prior to digging or boring. The CONTRACTOR shall pothole to locate critical utilities prior to digging or boring.
- B. Existing alarm systems shall be identified and taken out of service prior to commencing demolition operations. Alarm services shall be notified that the alarm will be taken out of service before taking the system out of service.
- C. The CONTRACTOR shall determine if any type of hazardous chemicals, gases, explosives, flammable materials, or similarly dangerous substances have been used in any pipes, tanks, or other equipment on the property.
- D. When the presence of hazardous substances is apparent or suspected, testing and purging shall be performed, and the hazard eliminated prior to demolition.
- E. Pipe-covering insulation, steel beam and column fire protection, and HVAC duct shall be surveyed for asbestos.

- F. During demolition, continuing inspections shall be made as the Work progresses to detect hazards resulting from weakened, load burdened, or deteriorated floors or walls or loosened materials.
 - 1. The CONTRACTOR shall ensure that floor load limits are not exceeded during demolition operations.
 - 2. Disperse demolition equipment throughout the structure and remove demolished materials to prevent excessive loads on supporting walls, floors, or framing.
- G. Adequate dust control measures shall be provided during demolition, stockpiling, and loading operations with potable water sources only. The CONTRACTOR shall inspect for accumulated dust and clean regularly.
- H. Walking across exposed floor joists, steel beams, or girders is prohibited.
- I. Standing on pipes, conduits, or other structures (i.e., cable trays, motors) used for the treatment process is prohibited.
- J. The CONTRACTOR shall ensure safe passage of persons around the area of demolition. Conduct operations to prevent damage to adjacent buildings, structures, other facilities, and people.
- K. Provide interior and exterior shoring, bracing, or supports to prevent movement, settlement, or collapse of structures to be demolished, and to adjacent facilities.
- L. Demolish concrete and masonry in sections. Use bracing and shoring to prevent collapse.
- M. Indoor concrete demolition shall have a dust control plan in place that is effective and accepted by the ENGINEER. Continuous inspection of indoor dust and the efficacy of the plan must be conducted.

5.22. ELECTRICAL

A. General

- 1. Contractors and all their employees must follow the NFPA 70 and 70E standards to determine work practices with appropriate arc-resistant personal protective equipment.
- 2. The Contractor who places, installs, erects, or connects any electrical wires, fixtures, appliances, apparatus, raceways, conduits, solar photovoltaic cells, or any part thereof, which generate, transmit, transform, or utilize electrical energy in any form or for any purpose shall be an electrician certified by the State of California or a C-10 Electrical Contractor Licensed in the State of California.
- 3. The Contractor who installs, services, and maintains all types of communication and low voltage systems which are energy limited and do not exceed 91 volts shall be a C-7 Low Voltage Systems Contractor. These systems include, but are not limited to telephone systems, sound systems, cable television systems, closed-circuit video systems, satellite dish antennas, instrumentation and temperature controls, and low voltage landscape lighting. Low voltage fire alarm systems are specifically not included in this section.
- 4. During the commissioning phase of a project, a state certified electrician shall be available to make any changes or adjustments to electrical installations that the commissioning coordinator requires. This would include testing equipment, checking voltage, and installing wire jumpers.

5. All temporary power panels must have covers installed always. All circuits must be clearly labeled.
6. Contractors are to supply ground fault circuit interrupters (GFCI) for all temporary electrical wiring cords and equipment. Ground Fault Circuit Interrupters shall be tested in accordance with manufacturer's requirements. Logs shall be maintained of all such testing. GFCI with automatic reset feature are not permitted for use at OC SAN.
7. Temporary lighting shall not be suspended by its extension/power cord and must be equipped with guards to prevent contact with the bulb.
8. Extension cords must be at minimum 12-gauges, three-wire cords. Extension cords shall be used only in continuous lengths without splice or tap. The terminals and insulation shall be free of defects such as cracked, split, or nicked insulation; exposed wires; knots; burn marks; loose connectors; or other damage that may present a fire or an electrocution hazard. The ground prong shall not be removed.
9. Power tools must be double insulated or grounded properly. Power tools shall be inspected before each use. Damaged or defective tools and cords shall be removed from service.
10. To protect all employees on the Work site, Contractors shall use either or both a ground-fault circuit interrupters or an assured equipment ground conductor program as required by 8 CCR section 2405.4.
11. Contractors must properly tagout and lockout any equipment within their responsibility. Control of the lock and tag is also the Contractor's responsibility. The CONTRACTOR shall coordinate instances that require multi-employer lockout/tagout activities.
12. The CONTRACTOR shall ensure that all electricians are trained on NFPA- 70E (Electrical Safety in the Workplace) to identify electrical hazards. Contractors shall provide all PPE as required by NFPA 70E. The CONTRACTOR shall request the latest arc flash hazard study from OC SAN 45 days prior to performing any Work on existing live systems and/or equipment. Contractors shall use care when working around energized parts so as not to contact live parts, causing an electrical outage and/or injury.

B. Electrically Safe Work Condition

1. Energized electrical conductors and circuit parts operating at voltages equal to or greater than 50 volts shall be locked out and tagged out before an employee performs Work within the limited approach boundary or the employee interacts with equipment where conductors or circuit parts are not exposed but an increased likelihood of being burnt from an exposure to an arc flash hazard exists.
2. Energized electrical Work or exposure to open energized panels shall be prohibited without authorization from the ENGINEER, unless required in the Contract Documents or as listed below.
3. Contractors may Work in the following equipment and locations while energized:
 - a. Contractors may perform Work inside existing electrical cable trays or 480V manholes and pull boxes while existing cables are energized and in operation. Contractors shall wear appropriate personal protective equipment per NFPA 70E.
 - b. Contractors may perform Work inside PLC and Remote I/O Panels while the

panel are energized and in operation. Contractors shall wear appropriate personal protective equipment per NFPA 70E.

- c. T Contractors may perform testing, troubleshooting and voltage measuring of control circuits while energized. Contractors shall wear appropriate personal protective equipment per NFPA 70E.
4. De-energizing electrical conductors and circuit parts to which an employee may be exposed shall be performed by de-energizing and locking out the sources of electrical energy in accordance with the LOTO section. Electrically safe working conditions shall be established by qualified persons only.
5. When the possibility of induced voltages or stored electrical energy exists, the phase conductors or circuit parts shall be temporarily grounded in accordance with NFPA 70E before touching them.
6. Documentation, including facility drawings, shall be reviewed to ensure that no electrical circuit interlock operation can result in reenergizing the circuit being worked on.
7. Locks and tags shall only be installed on circuit disconnecting means. Control devices such as pushbuttons or selector switches shall not be used as the primary isolating device.

C. Energized Work

1. If Work on or near energized electrical systems is required, the Contractors shall be trained in NFPA-70E and shall obtain the ENGINEER's written acceptance of and adhere to a plan for such energized Work that includes the following:
 - a. Description of energized Work to be performed, estimated duration of energized Work, arc flash hazard category and the required PPE.
 - b. Safety Plan and Procedures.
 - c. Performance of energized Work by the Contractor's qualified, experienced electrician who is NFPA-70E trained and licensed in the State of California.
 - d. Installation of barriers, if possible, to isolate the energized parts and/or devices that may cause a shutdown of a process.
 - e. Obtaining the ENGINEER's acceptance of the plan prior to the notification of OC SAN.
 - f. Written Notification shall be provided to OC SAN as required per Contract Documents.
2. Shutdown requests shall be submitted as specified in the General Requirements section entitled "Advance Notification for Plant Shutdown".
3. Working on energized equipment shall be performed by qualified persons, where authorized by the ENGINEER, or where it can be demonstrated that de-energizing equipment introduces additional hazards or increased risk. The authorization will be in the form an Energized Electrical Work Permit.
4. Energized Work is permitted where the task is infeasible in a de-energized state due to equipment design or operational limitations, or for equipment operating at less than 50 volts.
5. Contractors shall implement safety-related work practices consistent with the electrical hazard and associated risk. The safety-related work practices shall be determined before any person is exposed to the energized equipment using

shock and arc flash risk assessments. The shock risk assessment will determine the limited approach boundary and the restricted approach boundary. The arc flash risk assessment will determine the arc flash boundary, including the level of personal protective equipment to protect against arc flash hazards.

6. Employees are prohibited from blindly reaching into areas that might contain exposed energized electrical conductors or circuit parts.
7. Conductive articles of jewelry and clothing (watches, bracelets, rings, key chains, necklaces, metal framed glasses) shall not be worn within restricted approach boundaries or where they present an electrical contact hazard. Additionally, any conductive materials and equipment that are in contact with any part of an employee's body shall be handled in a manner that will prevent contact with exposed energized conductors or circuit parts.
8. When working within a confined or enclosed space that contains exposed energized electrical conductors or circuit parts operating at 50 volts or more, protective shields, protective barriers or insulating materials shall be used to avoid inadvertent contact with these parts.

D. Limited Approach Boundary

1. The limited approach boundary is the established safe distance for unqualified persons. The limited approach boundary is a calculated distance from an exposed live part where a shock hazard may exist. Only qualified persons are permitted to cross this boundary, if needed.
2. Where there is a need for unqualified persons to cross the limited approach boundary, qualified persons shall advise the unqualified person of the hazards and continuously escort the unqualified person while inside the boundary limit. Unqualified persons shall never cross the restricted approach boundary.

E. Restricted Approach Boundary

1. The restricted approach boundary is closer to live parts and may only be crossed by qualified persons. The restricted approach boundary is a calculated distance from an exposed live part where there is an increased risk of shock due to electrical arc combined with inadvertent movement for personnel working near the live part. Energized electrical permits are required when crossing this boundary to perform Work on the energized conductor or circuit.
2. No qualified person shall approach or take any conductive object closer to exposed energized electrical parts within the restricted approach boundary, except where authorized by the ENGINEER in writing.
3. Unqualified persons are prohibited from working within the restricted approach boundary.

F. Arc Flash Boundary

1. The arc flash boundary is the calculated distance at which the incident energy equals 1.2 calories per square centimeter (energy capable of causing a curable second-degree burn). In theory, persons working outside of the arc flash boundary would only sustain a curable second degree burn or less should an arc flash occur. Work performed inside of the arc flash boundary requires a level of PPE to reduce the incident energy on the human body to quantities lower than 1.2 calories per square centimeter.

2. The incident energy analysis is based on the working distance of the employee's face and chest from a prospective arc source for the specific tasks to be performed. The analysis is performed as part of the arc flash risk assessment, which considers overcurrent protective devices, fault clearing time, and condition of maintenance.
3. The incident energy analysis shall be evaluated when changes occur in the electrical system or every five years, whichever occurs first.

G. Demolition

1. Demolition of the following equipment and systems shall be performed by an electrician certified by the State of California, or a C-10 Electrical Contractor licensed in the State of California. The individual(s) shall also be deemed to be a Qualified Person(s), as defined by Cal/OSHA and NFPA 70E.
 - a. Electrical systems, equipment, and connections that have a potential of 50 volts or greater.
 - b. Electrical conductors, cables, cable bus, cable trays, and bus ducts.
 - c. Conduits terminating at equipment that is to remain in operation after demolition Work is performed.
2. Prior to performing any electrical demolition Work, the following activities at a minimum, shall be completed by a Qualified Person(s) who is an electrician certified by the State of California or a C-10 Electrical Contractor licensed in the State of California, to ensure the system or equipment have been made safe for demolition Work:
 - a. Review applicable drawings
 - b. Locate source, destination, and routing (end to end) of the conductors, cables, cable bus, cable trays, bus ducts, and conduits to be demolished.
 - c. Identify voltage levels and other hazards
 - d. Walk through the entire length of the demolition route from the power source to the termination point at end device. Ensure all conductors, cables, cable bus, cable trays, bus ducts, and conduits have been adequately identified (end to end wire checks) for demolition.
 - e. Mark all the equipment to be demolished from the power source to the end device destination using a contrasting means that cannot be easily removed (paint, tape, adhesive wire ID tags, etc.) as acceptable to the ENGINEER. The equipment shall be marked at five feet intervals. The equipment shall also be tagged where the conductors, cables, cable bus, cable trays, bus ducts, and conduits enter an underground installation and/or penetrate a wall.
 - f. Unless accepted by the ENGINEER, the demolition of the conductors, cables, cable bus, cable trays, bus ducts, and conduits shall never start in the middle of the route. It shall always start from one end and work toward the other end.

5.23. ELEVATING WORK PLATFORM AND AERIAL DEVICES

A. General

1. Only authorized and trained personnel shall operate an aerial device or elevating work platform.

2. Boom, basket, platform load limits specified by the manufacturer shall not be exceeded.
3. Employees shall not sit or climb on the edge of the basket or platform or use planks, ladders, guardrails, or other devices to gain greater height.
4. Employees shall not work from elevated work platforms or aerial devices when exposed to high winds. OSHA defines "high winds" as any wind condition above 40 mph.

B. Aerial Devices

1. An aerial device is any vehicle-mounted or self-propelled device, telescoping extensible or articulating, or both, which is primarily designed to position personnel.
2. Belting off to an adjacent pole, structure, or equipment while working from an aerial device is not permitted.
3. Lift controls shall be tested in accordance with the manufacturer's recommendations or instructions prior to use to determine that such controls are in safe working condition.
4. Aerial baskets or platforms shall not be supported by adjacent structures when workers are on the platform or in the baskets while in an elevated position.
5. An employee, while in an elevated aerial device shall be secured to the identified anchorage point using a full body harness and lanyard for fall protection.
6. An employee shall not exit the aerial device to gain access to an elevated work area (i.e., use it as an "elevator").
7. The total load shall not exceed the weight allowed by the manufacturer.

C. Elevating Work Platforms

1. An elevating work platform is a device designed to elevate a platform in a substantially vertical axis. (Vertical Tower, Scissor-Lift)
2. Scissor lifts and vertical tower lifts equipped with a personal tie off anchor point, as designed by the equipment manufacturer, personal fall arrest system for aerial lifts shall be used. Contractors shall refer to equipment manufacturer instructions for safe use of the anchor point. If the scissor lift or vertical tower is not equipped with a personal tie off anchor point, then personal fall arrest systems are not required. At no time shall the employee tie off to a guardrail system or other unapproved system or structure.
3. The platform guardrail shall be 42 inches high, plus, or minus 3 inches, with a middle railing. Where the guardrail is less than 39 inches high, a personal fall protection system accepted by the ENGINEER and Risk Management in writing shall be used.
4. Powered elevating work platforms shall have both upper and lower control devices. Controls shall be plainly marked as to their function and guarded to prevent accidental operation.
5. An emergency stopping device shall be provided at the upper controls of elevating work platforms.
6. Ladders or other objects shall not be placed on top of units to gain greater height.

7. An employee shall not exit the elevating work platform to gain access to an elevated work area (i.e., use it as an “elevator”), unless a manufacturer approved procedure is available.
8. The work platform shall be operated according to manufacturer instructions.

D. Rescue Plan

1. Before Work begins, necessary rescue equipment should be determined and made available at the work area.
2. Appropriate emergency rescue procedures shall be in place for an emergency rescue of a person using a fall-arrest system or aerial lift device, as follows:
3. Rescue shall be provided in less than six minutes to prevent suspension trauma. For most Work, this shall necessitate a full-time safety watch.
4. If a rescue cannot be performed in less than six minutes, the fall-arrest system shall have a device that automatically lowers the person to the ground safely.
5. If compliance with the above cannot be achieved, a safe and alternative working procedure shall be used.
6. Emergency rescue procedures shall consider the immediate rescue of a person after an arrested fall without the need to rely on emergency services or appropriately trained and competent standby rescue teams.

5.24. EMERGENCY ACTION AND EVACUATION PLAN

- A. The CONTRACTOR is responsible for the development of a Project-specific emergency action plan that shall consider probable and possible emergency situations. This plan shall be included in the SSSP.
- B. The plan shall be revised throughout the course of the Project to reflect changed conditions. The plan shall be maintained at the site, and available for review upon request. The plan shall contain the following at a minimum:
 1. Project site map
 2. Street map of immediate area showing Project location that clearly identifies one-way and dead-end streets.
 3. Building plan, including a plan for each floor
 4. Emergency notification list
 5. Emergency notification procedures
 6. Evacuation procedures
 7. Evacuation route
 8. Evacuation refuge area
 9. How employees will be trained on the contents of this plan
 10. Intervals for refresher training
- C. The plan shall contain an Emergency Contact List. The list shall include 24-hour contact information for key Project personnel that will respond to emergencies. The CONTRACTOR shall maintain this list throughout the duration of the Contract and provide a revised copy to all parties when made necessary by changes to personnel or their contact information.

5.25. ENVIRONMENTAL CONTROLS

- A. Spills of hazardous materials (including cutting oil, fuel, solvents, antifreeze, sewage, etc.) must be reported immediately to the appropriate regulatory agencies and to OC SAN. The party responsible for the spill is responsible for cleanup costs.
- B. Cutting equipment must have secondary containment (drip pans, sandboxes).
- C. Drums, jugs, and other containers must have secondary containment.
- D. All containers must be maintained in good condition and must be appropriate for the materials to be stored in them.
- E. All containers must be labeled with their contents and precautions for use.
- F. Containers containing hazardous waste must be labeled "Hazardous Waste" in addition to listing their contents on the label.
- G. Weekly inspections of the Project must be performed by the CONTRACTOR to assure compliance with this section.
- H. Hazardous waste owned by OC SAN prior to the notice to proceed will be considered OC SAN-generated hazardous waste, which requires Risk Management personnel to sign and receive copies of manifested paperwork.
 - 1. The CONTRACTOR shall coordinate with the ENGINEER on the storage of hazardous waste before remediation begins. The CONTRACTOR shall request each storage container from OC SAN a minimum of ten workdays in advance of remediation of hazardous materials.
 - 2. Risk Management will contact an OC SAN approved hazardous waste transportation and waste disposal vendor to transport OC SAN-generated hazardous waste offsite and dispose of in compliance with applicable Federal and State regulations. The CONTRACTOR is responsible for all other construction generated waste.

5.26. EQUIPMENT AND TOOLS

- A. Contractors' equipment and tools must be in proper working condition and routinely (i.e., daily or prior to use) inspected for defects.
- B. Any equipment or tool found to be damaged or defective must be removed from service and repaired before it can be returned to service.
- C. Manufacturer's instructions shall be followed with respect to equipment/tool operation and training requirements.
- D. Equipment is not to be used with loads that exceed the recommended rated capacity.
- E. Contractors are to use only their own equipment and tools, and not those of others, unless employees are properly trained and authorized.
- F. Tools and equipment are to be used for their designated purpose.
- G. Tools and equipment are to be used only by trained and authorized employees.
- H. Proper guards or shields must be installed on all power tools before use. All guards must be manufactured by and/or approved by the manufacturer for that piece of equipment.
- I. The practice of "wedging or pegging" guards on circular saws or other equipment, rendering them non-functional, is not permitted.

- J. No internal combustion vehicle or machinery is to be operated inside structures, confined spaces, or excavations unless proper engineering controls have been implemented to minimize carbon monoxide levels. In such cases where vehicles or machinery are operated inside structures, carbon monoxide levels shall be monitored continuously to ensure a safe work environment.
- K. All material handling equipment must have an audible backup alarm unless a designated spotter is used.
- L. Tools and equipment must be properly stored, secured, and located away from unauthorized access.
- M. For pneumatic power tools, all air hoses exceeding ½ inch inside diameter shall have a safety device (commonly known as an “OSHA valve” or “safety check valve”) at the source of air supply or branch line origin (such as a manifold) to reduce pressure in case of hose failure.

5.27. MACHINE GUARDING

- A. Contractors shall use tools with manufacturer provided guards. Guards and safety devices shall not be defeated or manipulated.
- B. Contractors shall secure any fixed tool or equipment to prevent shaking or jumping.

5.28. EXCAVATION AND TRENCHING

- A. The Contract Documents require that all excavations be performed, protected, and supported as required for safety and in a manner set forth in the operational rules, orders, and regulations prescribed by the Cal/OSHA Construction Safety Orders.
- B. The CONTRACTOR shall submit to the ENGINEER for acceptance, in advance of excavation, a detailed plan showing the design of shoring, bracing, sloping, or other provisions to be made for worker protection from the hazard of caving ground during the excavation of any trench or trenches 5 feet or more in depth. The plan shall be submitted using OC SAN’s PCMS. The plan shall be prepared and signed by a Civil or Structural Engineer registered in the State of California as required by all applicable laws including Cal/OSHA construction safety orders. As a part of the plan, a note shall be included stating that the registered Civil or Structural Engineer certifies that the plan complies with the Cal/OSHA Construction Safety Orders, or that the registered Civil or Structural Engineer certifies that the plan is not less effective than the shoring, bracing, sloping, or other provisions of the Safety Orders.
- C. The detailed plans showing the design of shoring, etc., shall include surcharge loads for nearby embankments and structures, for spoil banks, and for construction equipment and other construction loading. The plans shall indicate, for all trench conditions, the minimum horizontal distances from the side of the trench at its top to the near side of the surcharge loads.
- D. Nothing contained in this section shall be construed as relieving the CONTRACTOR of the full responsibility for providing shoring, bracing, sloping, or other preventive measures which are necessary for worker protection, nor for the liability resulting from the failure to do so.
- E. The CONTRACTOR shall obtain an excavation permit for excavations when required by the ENGINEER or local or State law.
- F. Trenching or excavating activities must be under the supervision of a trained Competent Person.

- G. Contractors' materials for the protection of personnel (i.e., bracing, shoring, shielding, and trench boxes) must be in good condition and of proper dimensions/materials.
- H. The CONTRACTOR's Competent Person must inspect excavations daily and whenever conditions change. The CONTRACTOR's Competent Person shall perform daily inspections of each trench and excavation for possible cave-ins, failure of protective systems, hazardous atmospheres, or other hazardous conditions. Results of such inspections shall be made available to those working within the trench or excavation.
- I. The CONTRACTOR's Competent Person must determine the soil classification (Type A, B, or C) to determine the appropriate type of protective system required for the excavation.
- J. Excavated soils, materials or equipment are to be kept at least 2 feet from the edge of the excavation.
- K. The CONTRACTOR must provide appropriate barriers to protect people and vehicles from falling into the trench. Lighted barricades must be provided at night. Danger and/or caution tape is not an acceptable barrier.
- L. Ladders or other means of egress must be provided by the CONTRACTOR for access and spaced within 25 feet of any worker inside the excavation when the depth of the excavation exceeds 4 feet (48-inches).
- M. Walkways are to be provided over any excavation or trench point that an employee may need to cross. Walkway must have handrails, midrails, and toeboards.
 - 1. Where pedestrian traffic must be accommodated over excavations, suitable non-skid plates, or other suitable material capable of withstanding at least twice the maximum intended load must be provided to serve as a pedestrian runway for safe passage.
 - 2. The edges of the runway shall be tapered (or chamfered) to minimize trip hazards. In the alternative, the approach to the runway shall be tampered with a suitable and durable material or the runway set into the surface to minimize trip hazards.
- N. Rescue equipment must be provided by the CONTRACTOR (full body harness and lifeline, breathing apparatus, basket stretcher, etc.) when hazardous atmospheric conditions or engulfment hazards are expected to exist.

5.29. UTILITY LOCATION

- A. The CONTRACTOR must locate buried utilities before digging in accordance with the law.
- B. Prior to excavation, all known owners of underground facilities in the area shall be notified by calling the regional One Call Notification System at 811.
- C. The nearest shut off valve or control point for known utilities shall be identified on the CONTRACTOR developed and maintained site plan.
- D. The CONTRACTOR shall check the entire job site for visual signs of substructures. This includes such items as manhole covers, water meter boxes, ditch lines, pavement patches, previous location marks, pole risers, and the obvious absence of overhead utilities.

- E. Most utilities inside of treatment plants are not within USA jurisdiction and are not required to be marked. The CONTRACTOR shall meet with the ENGINEER to view the excavation plans and all utility information resources prior to potholing.
- F. Contractors must expose substructures utilizing hand and/or soft digging methods, such as air-knifing, hydro-excavation, or hand shovel after locations are determined.
- G. Utilities within 24 inches of the proposed location of excavation, drilling or other intrusive Work activities shall be exposed and identified using hand and/or soft digging methods identified above.
- H. Contractors shall be careful not to damage the utility substructure by scraping, hammering, or other forms of excavation or locating efforts.
- I. Contractors shall be aware of the possibility of joint use of an excavation/trench for power, telephone, gas, fiber optics, cable, etc.
- J. The subsurface utilities shall be marked during excavation, drilling, and other intrusive activities. The markings shall be visible and maintained throughout the intrusive activities.

5.30. FALL PROTECTION

A. General

- 1. Contractors shall have a written fall protection program if Work is required to be performed at elevated locations. The fall program shall be developed by a competent person and in accordance with applicable governmental regulations and this procedure. The program may be part of the Injury and Illness Prevention Program or maintained as a separate program.
- 2. Contractors shall conform to all applicable Federal and Cal/OSHA regulations.
- 3. The CONTRACTOR shall submit a fall protection plan as part of the SSSP for all Work exceeding 6 feet in elevation. The plan shall include a California licensed Professional Engineer's approval for the use of all lifelines. Documentation shall be provided to OC SAN prior to the start of the Work. The plan shall be submitted using OC SAN's PCMS.
- 4. Personal fall restraint, fall arrest, work positioning, horizontal lifelines, and vertical lifeline systems shall be designed and installed under the supervision of a California licensed Professional Engineer.
- 5. The CONTRACTOR shall meet with Risk Management prior to the start of the job and complete a CSO that addresses where fall protection may be required and how fall protection is to be achieved.
- 6. Contractors shall verify the use, inspection, storage, and maintenance of fall protection equipment with the requirements outlined in this document and all other applicable regulations.

B. Hierarchy of Fall Protection Controls

- 1. The hierarchy of controls listed below shall be utilized to eliminate or reduce fall hazards. When elimination is not feasible, various engineering and administrative controls will be evaluated to determine appropriate personal protection against the fall hazard. Fall hazards and existing controls shall be periodically reassessed to determine if a greater level of protection can be applied or if the hazard can be eliminated.

2. Elimination - Eliminating the fall hazard or preventing exposure to a fall hazard is the most effective control measure and should be considered for existing hazards or during new construction. This can be achieved by modifying a structure, isolating the authorized person from the hazard, changing a process, substituting equipment, or using work procedures so that the authorized person is not exposed to the fall hazard.
3. Passive Fall Protection - If it is not possible to eliminate the risk of a fall, reduce the risk using passive fall protection equipment. Passive fall protection offers a greater level of protection than active fall protection systems since there is no reliance on the authorized person. Passive systems include guardrails, covers capable of supporting weight, scaffolds, and aerial lift devices. Note: Aerial lift devices require the use of a personal fall restraint system.
4. Personal Fall Restraint System – These systems allow the authorized person access to conduct their work but prevent them from reaching a point of where a fall could occur. The system is generally suited if the authorized person needs to work at the edge of a hazard, such as a roof's edge or at a hatchway in a process area. The fall hazard shall be positioned a greater distance away as compared to the fixed length of lanyard.
5. Personal Fall Arrest System - If it is not possible to use the above options, the use of a personal fall arrest system (PFAS) to arrest a fall after it occurs shall be used. This system provides the maximum freedom of movement for workers to conduct Work. In the event of a fall, the fall will be arrested requiring the person to be self-rescued or be rescued.
6. Work Positioning System - These systems are different from a PFAS in that the length of the lanyard is shorter and rigged in such a way that will both restrict the range of movement of the authorized person and prevent falls of more than 2 feet. These systems secure the worker in place, allowing the authorized person to perform tasks with both hands. This requires the use of special harnesses and lanyards.
7. Administrative Controls - If none of the above measures are feasible or the risk of a fall remains, the risk shall be further reduced using administrative controls to reduce the risk of falling. These controls may include erection of a controlled access zone, warning line system, warning signs, training, or a safety monitoring system. The use of controlled access zones, warning line systems and safety monitoring systems shall be accepted by the ENGINEER and Risk Management before they are implemented. These controls attempt to increase worker awareness of fall hazard and alone should not be relied upon.

C. Passive Fall Protection Systems

1. Guardrails
 - a. Guardrails shall consist of a top rail, midrail and vertical posts. Mid-rails shall be installed at a height midway between the top edge of the guardrail system and the walking/working level. Guardrails shall be installed within 42 inches to 45 inches from the upper surface of the top rail to the working level.
 - b. Guardrails used around floor openings will be erected on all unprotected edges of the hole, except on the side with a cover that can be locked in a vertical position and can provide equivalent fall protection. Note: cover must be at least 42 inches in height.

- c. Guardrails may be temporary or permanent. Temporary guardrails may be relocatable or job-made, and typically used while more permanent systems are being installed or when Work is of short duration or at a space not intended as a permanent work area.
 - d. Access and egress openings in guardrails shall be equipped with a swinging, self-closing gate or shall be offset so that a person cannot walk directly into the opening. As a minimum, guardrails shall be able to withstand 200 pounds of force in any direction, except upwards, at the midpoint between posts without exceeding 1 ½ inches of deflection.
 - e. Mid-rails, screens, mesh, intermediate vertical members, solid panels, and equivalent structural members shall be capable of withstanding, without failure, a force of at least 150 pounds applied in any downward or outward direction at any point along the mid-rail or other member.
 - f. All guardrail posts shall not exceed a separation distance of 8-foot on center.
2. Toe-Boards
- a. When used as falling object protection, shall be erected along the edge of the overhead walking/working surface for a distance sufficient to protect employees below.
 - b. Toe-boards shall be capable of withstanding, a force of 50 pounds applied in any downward or outward direction at any point along the toe- board without failure.
 - c. Toe-boards shall be a minimum of 3 ½ inches in vertical height from their top edge to the level of the walking/working surface. They shall have not more than ¼-inch clearance above the walking/working surface. They shall be solid or have openings not over 1 inch in greatest dimension.
3. Covers
- a. Shall be designed by a qualified person and capable of supporting at least 400 pounds or twice the weight of the employee, equipment and materials imposed on 1 square foot.
 - b. Shall be secured to prevent accidental displacement.
 - c. Covers in the process areas shall only be opened by authorized persons.
 - d. Covers used in temporary construction shall bear painted or stenciled sign stating: "Opening – Do Not Remove".
 - e. Shall not project more than 1 inch above the surface.
 - f. When covers are not in place, the opening shall be constantly attended by an authorized person or protected by guardrails.
4. Personal Fall Prevention Equipment
- a. Body Harness
 - 1) Only ANSI-approved full body harnesses shall be used for personal fall protection systems.
 - 2) The full body harness shall be equipped with self-retracting lanyards.
 - 3) The weight limit of the harness and other system components shall be determined and not exceeded. Weight limit is determined by calculating

the body weight of the user and weight of any tools and materials being carried.

- 4) All full body harnesses must come equipped with both a back and front "D-ring".
- 5) Body or safety belts are not permitted for use as part of a personal fall protection system.
- 6) Harnesses should be equipped with suspension trauma safety straps.

b. Lanyards

- 1) Only ANSI-approved lanyards shall be used for personal fall protection.
- 2) The length of fixed length lanyards used for fall protection shall be determined by the competent person shall be less than the distance that allows its user to impact the level below in the event of a fall.
- 3) Lanyards shall be connected to secure anchor points in such a manner that will limit an employee free fall distance to 6 feet or less.
- 4) Lanyards shall be protected from abrasions, cuts, or deterioration caused by ultra-violet light, dirt, adverse weather conditions and chemicals.
- 5) Synthetic rope lanyards shall be rated to support at a minimum 900 pounds.
- 6) Lanyards with a shock absorbing device shall be used with the lanyard to reduce fall arresting forces to 500-600 pounds.
- 7) Lanyards shall be free from knots.
- 8) Lanyards shall not be tied back to themselves, except where designed to do so and approved by a qualified person.
- 9) Self-retracting lanyards shall only be attached using rated shackles or carabineers.
- 10) Lanyards shall only be connected to the "D" ring on a harness.

c. Self-Retracting Devices (Lanyards)

- 1) Only ANSI-approved self-retracting devices shall be used for personal fall protection.
- 2) Self-retracting devices that automatically limit free fall distance to 2 feet or less shall be capable of sustaining a minimum tensile load of 3,000 pounds applied to the device, with the line in the fully extended position.
- 3) Self-retracting devices that do not limit free fall distance to 2 feet or less shall be capable of sustaining a minimum tensile load of 5,000 pounds applied to the device, with the line or lanyard in the fully extended position.
- 4) Self-retracting devices shall not be used on horizontal or vertical lifeline systems unless the length of the lanyard on the drum of the device will not permit the worker to reach the hazard even when fully deployed.
- 5) Each employee shall be attached to a separate self-retracting device.
- 6) Self-retracting devices shall be protected against being cut or abraded. Self-retracting lanyards and fixed-length lanyards shall be leading edge certified.

d. Anchorages

- 1) All anchorages shall be designed and certified by a California licensed Professional Engineer regarding strength, location, and compatibility with fall protection equipment.
- 2) Anchorage points for personal fall arrest systems shall be capable of supporting 5,000 pounds per employee attached.
- 3) Anchorage systems for personal fall restraint systems shall be capable of supporting 4 times the intended load.
- 4) Anchorage systems for horizontal lifeline systems shall be capable of supporting two times the maximum tension developed in the lifeline during a fall. The number of persons attached to a horizontal system shall be used in determining the maximum tension in the lifeline. The system shall be designed, installed, and used, under the supervision of a qualified person.
- 5) Vertical lifelines shall have a minimum breaking strength of at least 5,000 pounds.
- 6) The anchorage systems are to be inspected for physical damage by the user prior to each use and a documented inspection by the competent person at a minimum frequency of two times per year and more frequently if environmental conditions warrant.
- 7) The correct placement of anchorage systems for personal fall arrest should be installed at or above shoulder height to reduce the fall distance. The anchor point should be located to minimize swinging, should not be affected by the environment or contamination, and should prevent contact with lower level or an object.
- 8) The following may never be used as an anchor point:
 - a) Top rails, midrails or vertical posts associated with a guardrail system
 - b) Handrails or stair rails
 - c) Ladders, except approved ladder safety systems
 - d) C-Clamps
 - e) Piping or conduit
 - f) Wood structures
 - g) Unistrut support systems
 - h) Motors or mechanical objects

e. D-Rings and Snap Hooks

- 1) D-rings and snap hooks shall have a minimum tensile strength of 5,000 pounds.
- 2) D-rings and snap hooks shall be proof-tested to a minimum tensile strength of 3,600 pounds without cracking, breaking, or taking permanent deformation.
- 3) Snap hooks shall be of locking-type designed and used to prevent disengagement.

- 4) Snap hooks shall not be used unless they are a locking type and designed for the following connections:
 - 5) Directly to webbing, rope, or wire rope.
 - 6) To other snap hooks.
 - 7) To a D-ring to which another snap hook or other connector is attached.
 - 8) To a horizontal lifeline.
 - 9) To any object that is incompatibly shaped in relation to the snap hook.
 - 10) D-rings and snap hooks shall have a minimum tensile strength of 5,000 pounds.
 - 11) Lanyard snap hooks shall not be wrapped around anchor points and connected back to the lanyard, except where designed for such use.

5. Personal Fall Restraint

- a. A Personal Fall Restraint System shall not allow the employee to fall. Fall restraint and horizontal/vertical lifeline systems shall be designed and installed under the supervision of a California licensed Professional Engineer who has been trained in fall protection and is a Qualified Person.
- b. Fall restraint systems shall be limited to flat or low sloped working surfaces.
- c. The fall restraint system shall include anchorage, connecting devices (lanyard/lifeline) and full body harnesses. Equipment shall be approved by ANSI.
- d. The connecting device shall be of sufficient length to allow movement of the authorized person only as far as the sides of the working level or working area. The authorized person shall not be capable of reaching the fall hazard.
- e. The connecting device may only be connected to the back D-ring of the fully body harness.
- f. Non-certified anchorages are not permitted for horizontal or vertical lifeline systems.

6. Personal Fall Arrest Systems

- a. Fall arrest systems shall be designed and installed under the supervision of a California licensed Professional Engineer who has been trained in fall protection and is a Qualified Person.
- b. The fall arrest system shall be designed such that the authorized person subjected to a fall shall not strike an obstruction or encounter a lower level or object.
- c. The fall arrest system shall include anchorage, connecting devices (lanyard), deceleration device and full body harnesses. Safety belts are not permitted for fall arrest or fall restraint.
- d. The connecting device may only be connected to the back D-ring of the body harness.
- e. Personal Fall Arrest Systems shall limit the fall distance to a maximum of 6 feet and prohibit the employee from contacting a lower level or structural element.

- 1) Where practicable, the anchor end of the lanyard shall be secured at a level that is higher than the D-ring of the employee's fall protection harness.
 - f. When using a lifeline, Contractors shall submit a fall protection plan for all Work exceeding 6 feet in elevation and the plan shall include a California licensed Professional Engineer's stamp of approval.
 - g. Self-retracting devices that automatically limit free fall distance to 2 feet or less shall be capable of sustaining a minimum tensile load of 3,000 pounds applied to the device, with the line in the fully extended position.
 - h. Self-retracting devices that do not limit free fall distance to 2 feet or less shall be capable of sustaining a minimum tensile load of 5,000 pounds applied to the device, with the line or lanyard in the fully extended position.
 - i. Anchorages used for attachment of personal fall arrest equipment:
 - 1) shall be independent of any anchorage being used to support or suspend platforms, and
 - 2) capable of supporting at least 5,000 pounds per employee, or
 - 3) Part of a complete personal fall protection system used under the supervision of a qualified person that maintains a safety factor of at least two.
 - j. The system shall be designed to bring an employee to a complete stop and limit the maximum deceleration distance an employee travels to 3.5 feet (shock-absorbing lanyards).
 - k. The system shall limit the maximum arresting force on an employee to 1,800 pounds and withstand twice the potential impact energy of an employee free-falling 6 feet or the free fall distance permitted by the system, whichever is less.
 - l. Personal fall arrest systems and components subjected to impact loading will be immediately removed from service and will not be used again for employee protection until inspected by a competent person and determined to be undamaged and suitable for re-use according to the manufacturers' specifications.
 - m. Personal fall arrest systems shall be inspected at least two times per year by a competent person. The date of the inspection shall be documented.
 - n. Personnel shall avoid carrying tools or sharp objects in their front or back pockets. Should a fall occur, these objects may become a puncture hazard.
 - o. The use of non-locking snap hooks is prohibited.
 - p. Body belts shall not be used for fall protection, fall restraint nor fall arrest.
7. Positioning Device Systems
- a. Work positioning systems shall be designed and installed under the supervision of a California licensed Professional Engineer.
 - b. Positioning devices shall be rigged such that an employee cannot free fall more than 2 feet.
 - c. Positioning device systems shall be inspected prior to each use.
 - d. Anchorage points for positioning device systems shall be capable of supporting 2 times the intended load or 3,000 pounds, whichever is greater.

8. Permanent Platforms

- a. Walking/working surfaces 6 feet and above shall be guarded by standard railing and toe board.
- b. No fall arresting equipment is required when working on a platform with fall protection (handrails, mid-rails, and toe boards) designed to regulatory specifications.
- c. When employees perform Work outside of the guarded area, they shall have on a full body harness and lanyard. The lanyard must be secured to the back- D ring of the harness and to a suitable anchor point.
- d. Cal/OSHA requires gates on ladders on work platforms. For this reason, all fixed ladders on work platforms should have gates at the top. Chains are not an acceptable substitute for ladder gates. Spring loaded double bar gates should be installed at the top of ladders on work platforms.

9. Elevated Work Surfaces

- a. Standard guardrails shall be provided on all open sides of unenclosed elevated work locations, such as: roof openings, landings, balconies or porches, platforms, runways, ramps or working levels more than 30 inches above the floor, ground, or other working areas.
- b. Fall protection systems, or other measures will be required whenever employees who are exposed to fall hazards from work/walking surfaces which are 6 feet or more above the adjacent ground, floor, or other work surface, or when elevated Work involves a potential hazard for falling outside existing railing that surrounds the platform below.
- c. Elevated platforms shall be maintained as to eliminate hazards from slips and trips.
- d. Guardrails used around holes will be erected on all unprotected edges of the hole. If the hole is used for the passage of materials, no more than two sides may have removable guardrail sections.

10. Floor Holes

- a. Holes in the floor that are greater than 2 inches in its least dimension shall be covered.
- b. Holes through which materials or tools may fall and create a hazard or through which parts of a person's body may contact dangerous moving parts, shall be completely covered except when in use.

11. Roof Fall Protection

- a. Guardrail systems shall be provided for Work within 15 feet of the roofs edge. When temporary or leading-edge Work is being performed, a fall restraint/arrest system accepted by the ENGINEER and Risk Management in writing may be implemented. Toeboards shall be installed at guardrail locations. Guardrails may be permanent or temporary. Routine walkways should be identified on the roofs. Parapet walls meeting the height and strength requirements of a guardrail are an acceptable form of fall protection.
- b. Guardrails shall extend at least 6 feet beyond the areas occupied by employees accessing, servicing, or repairing permanently mounted rooftop equipment.

- c. When roof access is provided along the roof edge, guardrails shall extend 15 feet on both sides along the roof edge. When roof access is provided through a roof hatch, guardrails shall be provided around the access hatch, except along the side with the hatch cover. A swinging gate shall be provided.
- d. Personnel who need to travel beyond the protection of the guardrails must be protected by a personal fall arrest or restraint system.
- e. Roof work shall be prohibited during lightning storms, heavy rain, high winds, or dense fog conditions. Roof work shall be prohibited after dusk, except during emergency repairs or planned Work where all appropriate safety precautions have been implemented in advance (i.e., portable lighting). Use of a personal flashlight is acceptable as a back-up only.
- f. If personal fall protection is utilized, provisions need to be made to protect people below from falling object hazards. This may include delineating surfaces below the elevation location or positively securing equipment/tools on the roof.
- g. Skylights shall be protected using skylight screens, approved covers or guardrails.

12. Ramps, Walkways and Sloped Surfaces.

- a. Employees on ramps, runways, and other walkways shall be protected from falling 6 feet or more to lower levels by guardrail systems.
- b. Ramps or Sloped Surfaces with an incline greater than 40 degrees will require an employee to use fall protection while on the ramp or sloped surface.

13. Leading Edge

- a. All personnel working within 15 feet from a leading edge that could cause a fall of 6 feet or more (including diagonal falls of 40 degrees or more) shall be protected from falling by guardrails systems, personal fall arrest systems, body positioning device, warning line system including a Safety Monitor/ Attendant.
- b. Personnel working within 15 feet of the roof edge will be required to use personal fall arrest or fall restraint devices that will not allow them access to the roof edge. Self-Retractable Lanyards (SRL) cannot be used as part of a personal fall protection or fall restraint system unless the full length of the lanyard is less than the distance to the roof edge.
- c. When a fall protection plan utilizes a warning line system in lieu of railing, fall arrest or fall restraint systems, warning lines constructed of ropes, wires or chain, and support stanchions shall be erected as follows:
 - 1) Warning line shall be installed no less than 15 feet from the roof edge.
 - 2) Warning line shall be rigged and supported in such a way that its lowest point including sag is no less than 34 inches from the walking surface and its highest point is no more than 39 inches from the walking surface.
 - 3) The warning line shall be flagged at not more than 6-foot intervals with high visibility material.

- 4) After being erected, warning line stanchions shall be capable of resisting without tip over a force of at least 16 pounds.
- 5) Warning line shall have a minimum tensile strength of 500 pounds and after being attached to the stanchion, shall be capable of supporting 16 pounds without breaking.
- 6) No Work or Work-related activity is to take place in the area between the warning line and the edge.
- 7) The use of warning lines closer than 6 feet from the edge is not permitted as substitute for conventional fall protection for Work other than roof construction/repair.

14. Excavations

- a. Excavations 6 feet or more in depth shall be protected from falling by wooden sawhorse style barriers, K-rails, fences, or similar appropriate devices. The authorized individual shall determine the degree of hazard and implement an effective method of control.
- b. Personnel shall travel directly to the point of entry of the excavation.
- c. The Contractor who created the hole or opening is responsible for implementing the preventative measure(s).

15. Wells, Service Pits, Shafts, Manholes, and Sumps

- a. Each person at the edge of a service pit, shaft, manhole, sump 6 feet or more in depth (or 4 feet if an OC SAN employee is exposed to the fall hazard) shall be protected from falling by guardrails systems, fences, rigid barricades, or covers.
- b. When performing Work activities near the edge of an open manhole or vault, the opening shall be guarded with a temporary cover or portable guardrail system.
- c. During the performance of any task where a manhole or vault will be open without a temporary cover, barricade, or protective hand-railing. A crew member shall be assigned the responsibility of a Safety Monitor, whose sole duty is to warn co-workers and bystanders when they exceed the 6-foot safety perimeter around the hole or opening.
- d. All floor holes and floor openings located in shut down or abandoned structures must be covered or guarded.

16. Confined Spaces

- a. Confined Spaces that are 5 feet or more in depth shall require the use of a mechanical retrieval device for both fall arrest and rescue. Exception – the required use of a mechanical retrieval device can be circumvented, only if the Entry Supervisor can justify that its use poses a greater hazard to the entrant(s). All exceptions must be documented on OC SAN's JHA form.
- b. Contractors shall develop fall protection and rescue plans and provide the equipment and personnel needed to implement their plans.
- c. One hundred percent (100%) fall protection shall be implemented by all trades for all fall exposures of 6 feet or more.
- d. Rescue shall be addressed in the Contractor's Confined Space Rescue Program and Confined Space Rescue Plan. The Contractor may be

required to submit a site-specific fall protection and rescue plan, as well as training documentation for review by persons with authorized oversight.

- e. Calling 911 and depending on local fire department shall not be allowed in lieu of the Contractor preparing and utilizing its own site-specific fall protection and rescue plan.

17. Training

- a. Contractors are required to provide training for any employee who might be exposed to a fall hazard prior to the exposure or upon hiring. Documentation shall be maintained and available for review upon request.
- b. Training must include an explanation of the company's fall protection policies and safe work practices with general instructions and precautions; specific instruction where required; hazard identification and correction; selection and proper use of protective devices; and maintenance of equipment. Instruction will also include correct procedures for donning and doffing fall harnesses, inspecting, erecting, disassembling, and maintaining fall protection systems used, and the employee's role in fall prevention and protection.
- c. Retraining. When the Contractor or OC SAN has reason to believe that any affected employee who has already been trained does not have the understanding and skill required, the Contractor shall retrain each such employee. Circumstances where retraining is required include, but are not limited to, situations where:
 - 1) Changes in the workplace render previous training obsolete; or
 - 2) Changes in the types of fall protection systems or equipment to be used render previous training obsolete; or
 - 3) Inadequacies in an affected employee's knowledge or use of fall protection systems or equipment indicate that the employee has not retained the requisite understanding or skill.

18. Inspection, Maintenance and Storage

- a. Fall protection equipment shall be inspected by the authorized person before each use to verify that it has not sustained any wear or damage that would require removal from service. These inspections are visual only, and not required to be documented.
- b. Fall protection equipment (including rescue equipment) shall be inspected twice annually by a competent person to verify the equipment is safe for use. The inspections shall be documented and copies to be submitted using OC SAN's PCMS.
- c. Horizontal and vertical lifelines shall be inspected prior to each use, and at least annually for any signs of degradation. Damaged or worn parts must be replaced. Check torque on any bolts against specification.
- d. Inspections shall look for illegible or missing tags, elements affecting fit or function, defects or damage to hardware including cracks, sharp edges, corrosion, chemicals, elongation, alteration, heat, or excessive wear. Records of inspections shall be maintained throughout the service life of the equipment and be submitted using OC SAN's PCMS.

- e. If inspections reveal damage or determined to be inadequate for service shall be tagged so equipment will not be returned to service. The competent person shall destroy the equipment.
- f. The competent person shall verify that the equipment is maintained according to the manufacturer's instructions.
- g. Equipment shall be stored in a manner that protects it from exposure to any conditions that could result in damage.
- h. Anchorage systems shall be inspected by the authorized person prior to each use and by a qualified person or competent person at least annually or in accordance with the manufacturer's instructions. Inspections by qualified or competent persons shall be documented.
- i. Damaged anchorages shall be repaired or replaced and recertified by a qualified person.
- j. Anchorage inspections shall look for cracks, deformation or bending in the structure around the anchorage or if the connection is unstable or loose.
 - 1) Equipment involved in a fall arrest incident must be taken out of service immediately and handled according to the manufacturer's instructions. Out of service equipment shall not remain on the job site.
 - 2) Retractable lifelines/lanyards must be sent back to the manufacturer for repair and re-certification.
- k. The service life of harnesses and lanyards is determined by the manufacturer and shall be discarded upon expiration. This information is found on a tag located on the device itself.
- l. Fall protection equipment must be used in accordance with manufacturer instructions, including weight and size limitations, and must not be altered in any way without written manufacturer authorization.

5.31. FIRE PROTECTION AND PREVENTION

- A. Contractors shall be especially careful to avoid fire hazards in all welding, cutting, and equipment fueling. Contractors shall attain an OC SAN-issued hot work permit before any hotwork begins.
- B. Many areas of the treatment plant, pump stations and collection system are electrically classified as Class 1, Division 1 or Class 1, Division 2 environments. Contractors shall ensure that equipment used in these locations is approved for use by a Nationally Recognized Testing Laboratory (NRTL) for use in these locations.
- C. Many areas of the treatment plant and pump stations have flammable gas warning systems. Contractors shall stop Work and evacuate the area if an alarm is activated.
- D. Contractors shall stop Work and evacuate the area if a fire alarm is activated, or a public-address announcement indicates a fire is possible or another emergency exists.
- E. Sprinkler systems shall always be maintained in an operable condition by the Contractor while the building is occupied.
- F. Contractors shall furnish all safety devices, fire extinguishers, fire blankets, and fire watch personnel required to protect the Work and provide for worksite and public safety.

- G. The CONTRACTOR must develop a fire protection program to be followed throughout all phases of construction. The fire protection program shall be included in the SSSP.
- H. The program shall include the most stringent of Cal/OSHA, local Fire Marshal, and/or local Fire Code requirements and comply with the following OC SAN fire prevention procedures and controls:
 - 1. Housekeeping is essential to fire prevention and to a well-run operation. The following general housekeeping rules will be followed:
 - a. Prevention of accumulation of loose debris, waste, and trash.
 - b. Control of combustible waste and refuse in covered metal cans with at least shift-end removal from the building.
 - c. Storage racks and stacks of materials on pallets are in a neat and orderly manner and in their designated stock locations.
 - d. Immediate clean-up of stock or chemical spills.
 - e. Aisles and exit ways clear and free of obstructions.
 - f. Prohibition of any storage in exit ways, stairwells, and inside or outside fire exits doors.
 - g. Clear 36-inch access to all fire protection and emergency equipment and electrical panels.
 - 2. Smoking is a recognized hazard and should be prohibited or prevented wherever possible.
 - a. The State of California prohibits smoking within 20 feet of the entrance to a building.
 - b. Smoking will be restricted to designated areas.
 - c. Such areas will be provided with appropriate non-combustible ashtrays and will be emptied daily into metal trash containers not containing combustible waste.
 - d. It is important to inform all visitors, truck drivers, etc. of OC SAN's smoking restrictions and insist on their compliance.
 - 3. Electrical Maintenance
 - a. Only qualified and trained personnel will be permitted to repair or work on electrical installations and equipment.
 - b. Any defective wiring or electrical equipment should be reported immediately to the ENGINEER. Such equipment will be immediately taken out of use, tagged as defective, and a work order issued for its repair or evaluation.
 - c. Strict attention should be paid to cleanliness. Combustible materials should be prohibited from accumulating in substations, electrical rooms, control rooms, cable trays, around motors and other electrical installations.
 - d. Extension cords will be permitted only for emergency or truly temporary situations (less than 90 days) and shall be properly sized for the equipment to be operated. Care should be taken to assure such temporary wiring is visible and protected from fraying or pinching.
 - e. All electrical installations will meet appropriate electrical codes and listings.

- f. Access clearances will be maintained to all electrical panel boxes and switchgear.
4. Flammable Liquids
- a. Flammable liquid containers shall be stored in NFPA compliant flammable cabinets, storage rooms, or outbuildings.
 - b. Only manufacturer's original containers or FM or UL approved flammable liquid containers shall be used.
 - c. Proper handling and dispensing procedures shall include grounding, quantity limits, pressure relief, and required personal protective equipment needed for use.
 - d. Spills shall be controlled and reported.
 - e. Potential ignition sources such as faulty electrical equipment, open lights and flames shall be controlled and reported.
5. Flammable Gasses
- a. All storage and handling procedures for specific flammable gases and operations will be strictly observed.
 - b. Flammable gases will be stored separately from oxygen or other oxidizers. Only exception will be one oxygen cylinder in use on an acetylene welding cart.
 - c. Unless the cylinder valve is protected by a recess in the head, keep the metal cap in place to protect the valve when the cylinder is not connected for use.
 - d. Do not use a cylinder of compressed gas without a pressure reducing regulator attached to the cylinder valve, except where cylinders are attached to a manifold, in which case the regulator will be attached to the manifold header.
6. Follow proper welding and cutting procedures as listed in this document.
7. Firefighting equipment must be conspicuously located or conspicuously marked.
8. A fire extinguisher, rated not less than 2A, shall be provided for each 3,000 square feet of floor and fraction thereof. Where the floor is less than 3,000 square feet, at least one fire extinguisher is required.
9. The clear and unobstructed travel distance from any point of the protected area to the nearest fire extinguisher shall not exceed 75 feet.
10. In multi-story buildings, at least one fire extinguisher shall be provided on each floor and located adjacent to the stairway.
11. A fire extinguisher, rated not less than 10B, shall be provided within 50 feet of wherever more than 5 gallons of flammable or combustible liquids are stored.
12. Portable fire extinguishers shall be fully charged, inspected monthly, and serviced annually.
13. Storage of more than 25 gallons of flammable liquids shall be in a NFPA approved storage cabinet. Not more than 120 gallons of Class I, II, or IIIA liquids may be stored in a storage cabinet.

14. A fire extinguisher, rated not less than 20-B, shall be located outside of, but not more than 10 feet from the door opening of storage rooms.
15. A portable fire extinguisher rated at least 10B: C shall be kept near operations where fuel gas cylinders/bottles are being used.
16. Portable fire extinguisher shall be readily available for use where temporary heating devices are used.
17. "No Smoking" signs shall be posted as required by operations or material exposures.
18. OC SAN reserves the right to designate no smoking areas on the Project.
19. Fire extinguisher must be at least a 20-pound ABC and provided within 5 feet of any hot work activity.

5.32. FIRST AID

- A. Contractors shall ensure the availability of at least one or more employees to render first aid and CPR. The individual shall have received training in CPR and first aid and be available at the job site always.
- B. Field Supervisors and Safety Representatives must be trained in First Aid and CPR and identified on the Project. Evidence of training shall be available for review upon request.
- C. Contractors shall provide at least one appropriately sized and stocked first-aid kit in a weatherproof container. The first aid shall be inspected regularly to ensure that the expended items are promptly replaced. The first aid kit shall be readily accessible to the job site. The CONTRACTOR shall prepare a map indicating its location.
- D. Eye wash capabilities shall be provided by the CONTRACTOR as required by the Safety Data Sheet (SDS) for products used at the job site.
- E. The CONTRACTOR and Subcontractors shall submit (through the CONTRACTOR) to the ENGINEER a list of First Aid / CPR trained personnel prior to starting Work. Each list shall be clearly dated and updated as required throughout the Contract Duration. Each time the list is updated, a copy shall be provided to the ENGINEER using OC SAN's PCMS.

5.33. FLAMMABLE AND COMBUSTIBLE MATERIALS

- A. Contractors are required to supply extinguishers, fire blankets, and other sufficient fire protection devices for the immediate work area where flammable and combustible material is stored or used. All fire extinguishers must be rated at a minimum of 2A, 20BC.
- B. Fire extinguishers shall be checked to verify that they are fully charged.
- C. All flammable liquids supplied by Contractors must be stored in NFPA compliant safety containers.
- D. All containers must be properly labeled and stored when not in use.
- E. Only FM or UL compliant metal safety cans will be allowed for flammable storage.
- F. Contractors shall identify non-compatible materials in advance and provide for separate storage as required.
- G. Storage of more than 25 gallons of flammable liquids or 60 gallons of combustible liquids shall be within cabinets constructed to the requirements of NFPA 30.

- H. All outside flammable and combustible storage areas must be at least 20 feet from any building.
- I. For roof Work:
 - 1. No more than a one-day supply of flammables may be placed on the roof during working hours.
 - 2. All flammables must be removed from the roof at the end of each workday by the Contractors.
 - 3. At least two extinguishers appropriate for the type and quality of flammable materials present must be provided if flammables are present.
- J. All flammable and combustible materials supplied by the Contractors must be kept away from sparks, heat, or ignition sources.

5.34. FORKLIFT (INDUSTRIAL TRUCKS AND TRACTORS)

- A. Only drivers authorized by the CONTRACTOR and trained in the safe operations of industrial trucks shall be permitted to operate forklifts.
- B. Operator training and posting of information regarding forklift operations shall be in accordance with applicable Cal/OSHA Standards.
- C. The CONTRACTOR shall certify that each operator has been trained and evaluated as competent for each type of equipment used.
- D. All forklifts and industrial trucks and tractors shall be equipped with an audible back-up alarm which can be normally clearly heard from 200 feet. In congested areas or areas with high ambient noise which obscures the audible alarm, a signal person in clear view of the operator shall direct the backing operation.
- E. The rated capacity of all industrial trucks and industrial tractors and the manufacturers manual shall be displayed on the vehicle in such a manner that it is readily visible to the operator.
- F. Every industrial truck and tractor shall be equipped with operable brakes, a parking brake, and a horn.
- G. Seat belts shall be provided on industrial trucks and tractors where rollover protection is installed. Employees shall be instructed in their use.
- H. No riders shall be permitted on vehicles unless the vehicles are equipped with adequate riding facilities and specifically designed for riders.
- I. Employees shall not ride on or be elevated on the forks of lift trucks.
- J. Industrial trucks may be used to elevate employees in accordance with applicable Cal/OSHA Standards and manufacturer's recommendations using appropriate personnel platforms.
- K. Employees shall not be allowed to stand, pass, or work under the elevated portion of an industrial truck, loaded or empty.
- L. Drivers shall inspect the forklift at least once per shift. Attention shall be given to tires, horn, lights, battery, controller, brakes, steering mechanism, cooling system, and the lift system (forks, cable, and limit switches). The inspection shall be documented and maintained on the forklift.
- M. Vehicles shall not exceed the authorized or safe speed, always maintaining a safe distance from other vehicles, and keeping the truck under positive control.

- N. The driver shall slow down and sound the horn at cross aisles and other locations where vision is obstructed.
- O. Grades shall be ascended or descended slowly.
- P. Turns shall be restricted to flat even surfaces to prevent tip over.
- Q. The forks shall always be carried as low as possible, consistent with safe operation. When traveling forward with an obstructed view due to the load, the operator must travel in reverse or utilize a flagger.
- R. When leaving a vehicle unattended, the power shall be shut off, brakes set, the mast brought to the vertical position, and forks left in the down position.
- S. Forklifts (Industrial Trucks and Tractors) shall not be loaded more than their rated capacity.
- T. Any vehicle attachments must be manufacturer approved or stamped by a California licensed Professional Engineer.

5.35. HAZARD COMMUNICATION

- A. The CONTRACTOR shall maintain a copy of all SDS, and a chemical inventory list, for all hazardous substances used at the jobsite by their firm, as well as for all hazardous substances used at the jobsite by all Subcontractors regardless of tier.
 - 1. The location of the Project's Safety Data Sheets and chemical inventory list shall be communicated to the ENGINEER and Risk Management.
 - 2. All hazardous materials identified by Cal/OSHA as a carcinogen or reproductive hazard is subject to use restriction and/or prohibition from use on OC SAN facilities. In addition, the CONTRACTOR shall provide a written plan of how their own employees and OC SAN employees will be protected from exposure of these materials. A permit shall be issued by OC SAN; notification shall be made, and a permit issued one week before the material is brought on site.
- B. In accordance with the provisions of the Hazard Communication Standard, Contractors must have a comprehensive written Hazard Communication Program which includes:
 - 1. A list of hazardous substances known to be on site.
 - 2. Methods the Contractor will use to inform employees of the hazards of non-routine tasks.
 - 3. On Multi-Contractor job sites, the program shall include the methods the CONTRACTOR will use to inform its Subcontractors of any precautionary measures to protect their employees.
 - 4. The methods used to provide Contractors with access to Safety Data Sheets.
 - 5. The methods the CONTRACTOR will use to inform the Contractors of the labeling system in use.
- C. The CONTRACTOR must submit a copy of its Hazard Communication Program to the ENGINEER and Risk Management using OC SAN's PCMS.
- D. Contractors must have a job site binder which contains the following items:
 - 1. A comprehensive written Hazard Communication Policy.
 - 2. A chemical inventory listing all hazardous materials brought onto or used on the Project site by the Contractors.

3. SDS for all hazardous materials used on the Project site.
- E. The CONTRACTOR shall ensure that all employees have received training in the safe use of hazardous materials; and those employees are able to read and understand the information on the SDS. The training shall include at least:
 1. Methods and observations that may be used to detect the presence or release of a hazardous chemical.
 2. The physical and health hazards of the chemicals used in the work area.
 3. Measures employees can take to protect themselves from the hazards.
 4. Details of the hazard communication program, including the labeling systems and the use of SDS.
- F. Contractors shall ensure that all containers used on the construction site are properly labeled as to their contents, including gas and diesel containers.
- G. Contractors shall ensure that all storage silos, tanks, drums, etc. on the construction site are properly labeled as to their contents.
- H. Contractors shall provide a SDS for any hazardous substance that will be used on the job site to OC SAN prior to its use.
- I. Pipelines or process areas must be barricaded and/or signed to inform employees of potential dangers during testing.

5.36. HEAVY EQUIPMENT AND MATERIAL HANDLING

- A. Equipment shall be maintained in good working order. All vital parts such as motors, chassis, blades, blade holders, tracks, drives, hydraulic and pneumatic mechanisms, and transmissions must be inspected each day.
- B. Whenever visibility conditions warrant additional light, all vehicles, or combinations of vehicles, in use shall be equipped with at least two headlights and two taillights in operable condition.
- C. All vehicles, or combination of vehicles, shall have brake lights in operable condition.
- D. All vehicles shall be equipped with an adequate audible warning device (horn) at the operator's station.
- E. All vehicles must have a back-up alarm that is normally audible for 200 feet. In congested areas or areas with high ambient noise which obscures the audible alarm, a signal person in clear view of the operator shall direct the backing operation.
- F. Where equipped, windshields on heavy equipment shall be maintained in good condition free of dirt/debris that would hinder visibility.
- G. Vehicles operating in areas or conditions that causes fogging or frosting of windshields shall be equipped with operable defogging or defrosting devices.
- H. Cracked or broken windshields shall be promptly replaced.
- I. Windshields and mirrors shall be kept clean such that vision is not compromised or obstructed.
- J. Seat belts with approved proper anchorage points shall be installed in all haulage, earth moving, and material handling heavy equipment.
- K. Contractors shall ensure employee use of seat belts on motor vehicles.

- L. Trucks with dump bodies shall be equipped with positive means of support, permanently attached, to prevent accidental lowering of the body while maintenance or inspection work is being done.
- M. Operating levers controlling hoisting or dumping devices on haulage bodies shall be equipped with a latch or other device that will prevent accidental starting or tripping of the mechanism.
- N. Trip handles for tailgates of dump trucks shall be so arranged that, in dumping, the Operator will be in the clear.
- O. All rubber-tired motor vehicle equipment shall be equipped with fenders.
- P. All vehicles in use shall be checked at the beginning of each shift for defects in:
 - 1. Service brakes, trailer brake connections, parking brake system, and emergency stopping system (brakes).
 - 2. Tires, horn, steering mechanism, seat belts, operating controls, and safety devices.
 - 3. Lights, reflectors, windshield wipers, defrosters, and fire extinguishers.
- Q. Before starting a job, the operator shall be given instructions regarding the Work to be done.
- R. Before starting the motor, the operator shall check to make sure that all operating controls are in the neutral position.
- S. Before starting the equipment, or moving the equipment after re-entering the cab, the operator shall walk entirely around the equipment to make sure no other personnel, equipment or material will be struck.
- T. Contractors shall ensure that operators of heavy equipment wear appropriate hearing protection devices.
- U. At no time shall a piece of equipment be left unattended while the motor is running, especially if the machine is on an inclined surface or on loose material.
- V. Wheels must be blocked or chocked when parking on inclines.
- W. Machines shall be operated at speeds and in a manner consistent with conditions on the Project.
- X. No employee other than the operator shall ride on equipment.
- Y. During refueling operations, equipment motors shall be turned off. Smoking and nearby hot work are prohibited during refueling.
- Z. If possible, equipment shall be driven entirely off the roadway at night.
- AA. Unattended equipment must be left in a secure area not accessible to members of the public or unauthorized third parties.
- BB. Keys shall be removed from unattended equipment.
- CC. Spotters and/or Flaggers must be used when equipment Operator's view is obstructed whether moving forward or backward.
- DD. Equipment maintenance must be performed within a containment area where spilled fluids will not contaminate the ground and can be readily cleaned up.

5.37. HORIZONTAL BORING / PIPE JACKING

- A. Prior to boring/jacking operations, the CONTRACTOR must contact the regional One Call Notification System (811) to ensure all owners of underground facilities are notified to mark their utility locations.
- B. The Contractor shall locate all buried utilities before commencing boring/jacking operations.
- C. The Contractor shall open a guide hole (bore slot) over any existing utility that is in line with the bore shot.
- D. The Contractor shall excavate bore slots, bell holes and guide holes, as necessary.
- E. If resistance is encountered during the boring/jacking operation, cease the boring operation immediately and excavate at the point of resistance to determine necessary action.
- F. The operator must be trained in the use of the boring/jacking machine.
- G. At least two crewmembers must operate the bore motor always.
- H. Stay clear of rotating bore pipe and the rotating head of boring machine. Loose clothing, long hair, or gloves can cause injury if caught in rotating bore pipe.
- I. Only one crewmember shall transmit signals to the operator.
- J. Do not hold rotating bore pipe with hands or feet.
- K. Operate the boring machine only at slow RPM when used to connect or disconnect bore pipe.

5.38. HOUSEKEEPING

- A. Contractors shall perform daily housekeeping in Contractor work areas and laydown areas.
- B. All construction materials must be stored in an orderly manner and barricade taped off.
- C. All exits and access ways must be kept unobstructed.
- D. Puncture hazards (nails, staples, fasteners, etc.) created by stripped formwork, scrap lumber, pallets, shipping materials, etc. shall be eliminated or controlled by Contractors.
- E. Metal containers with covers must be provided for disposal of oily and paint-soaked rags.
- F. Maintain all exits.
- G. Emergency exits must be available.
- H. Panic hardware, where present, must remain unobstructed.
- I. Walkways and sidewalks must be kept free of construction materials, debris, dirt, tools, and extension cords.
- J. Where steel plates are used to bridge excavations or other similar type construction activities in roadways, walkways or sidewalks, the leading edges of the steel plates must be recessed or tapered with temporary asphalt or other suitable materials to prevent trip hazards and obtain the acceptance of the ENGINEER.
- K. Contractors shall maintain their Work site and laydown areas free of weeds, trash, and debris.

5.39. PORTABLE HEATERS

- A. All heaters must be Factory Mutual and/or Underwriters Laboratory approved.
- B. Contractors must notify the INSPECTOR to review and accept all liquid/gas fueled heaters brought onto the site prior to use.
- C. The use of liquid/gas fueled heaters inside of buildings requires OC SAN acceptance.
- D. Tent Heater use requirements are as follows:
 - 1. Use only in tents made of fire-resistant material.
 - 2. Avoid contact with heating elements or other hot parts.
 - 3. Keep flammable materials and clothing away from hot equipment.
 - 4. Never use heaters in a utility vault or in a tent that covers a utility hole.
 - 5. Ensure adequate ventilation is provided when using a tent.
 - 6. Secure a fire extinguisher within the tent in an accessible location.
- E. All portable heaters shall be protected from moisture.

5.40. LADDERS

- A. General
 - 1. Type II (225lb. limit) and Type III (200lb. limit) ladders are prohibited.
 - 2. Ladders must be at least Type I (250lb. limit), Type IA (300lb. limit) or Type IAA (375lb. limit) as appropriate to the weight of the user.
 - 3. Contractors shall provide a training program for each employee using ladders and stairways, as necessary. The program shall enable each employee to recognize hazards related to ladders and stairways and shall train each employee in the procedures to be followed to minimize these hazards.
 - 4. Contractors shall conduct portable ladder inspections in accordance with California Code of Regulations section 3276. Ladders shall be inspected by a qualified person for visible defects frequently and after any occurrence that could affect their safe use. Cal/OSHA defines frequently as greater than 12 times per year. Ladder inspections shall be documented by a label on the ladder, an inspection log, or equally effective method. Inspection logs are to be made available to Risk Management upon request.
 - 5. Tools, equipment, and other materials shall never be carried when ascending or descending a ladder, but rather hoisted using a rope and bucket system or provided by mechanical means (hoist, forklift, etc.).
 - 6. Ladders shall always be faced when ascending or descending.
 - 7. All ladders shall be maintained in a safe condition. All ladders shall be inspected prior to use. Any ladders identified with unsafe conditions shall be tagged out of service until repairs can be made.
 - 8. Ladders shall be maintained free of oil, grease, or slippery materials.
 - 9. Ladders shall not be painted, sanded, or otherwise altered.
 - 10. Retraining shall be provided for each employee as necessary so that the employee maintains the understanding and knowledge acquired through compliance with this section.

11. Employees must maintain a 3-point contact while climbing ladders.
12. Job-Made ladders shall be constructed in accordance with Cal/OSHA provisions.
13. All types of ladders must be inspected at least daily for:
 - a. Cracks, splits, splinters, and decay.
 - b. Protruding nails and loose rivets.
 - c. Loose, bent, or broken braces, tie rods, guide irons, locks, pulleys, and strand hooks.
 - d. Broken, worn or defective spurs and pads.

B. Extension Ladders

1. Portable ladder feet shall be placed on a substantial base.
2. Straight and extension ladders must be tied off or secured to prevent displacement.
3. Metal ladders must not be used near energized equipment.
4. No more than one employee is allowed on a ladder.
5. Ladders are not to be used for skids, braces, workbenches, or any other purpose other than climbing.
6. Ladders shall be used at such a pitch that the horizontal distance from the top support to the foot of the ladder is about one-quarter of the working length of the ladder.
7. Extension ladders shall be selected to meet the requirements of the person, task, and environment. Consideration shall be given to the length or height required, working load, duty rating, worker position to the task and frequency in which the ladder will be used.
8. The ladder shall be positioned so that the distance from the vertical wall is equal to one-fourth the working length of the ladder or a 4:1 slope. The ladder shall be placed on a firm level surface.
9. The ladder shall be placed to prevent slipping, or shall be tied, blocked, held, or secured to prevent slipping. If the ladder cannot be secured, the ladder may be held by a coworker.
10. Ladders shall not be used in the horizontal position as a platform, runway, or scaffold unless designed for such use.
11. The ladder shall extend no less than 36 inches above the landing surface to which the ladder is used to gain access.
12. Ladders shall have nonconductive side rails if they are used where the employee or the ladder could contact exposed energized electrical equipment.
13. Employees shall climb or work from the ladder with the body positioned near the middle of the step or rung. Overextending or reaching where the belt buckle extends beyond the side rails is not permitted, except where the user is protected by a personal fall arrest system.
14. Ladders used in aisle ways or placed in doorways shall be protected from incidental contact. Doorways shall be secured in an open position, locked, attended, or barricaded.

15. Additional height should not be gained by the addition of any type of extension, or an object being placed on the unit. Ladders shall not be tied or fastened together to provide longer sections, except where designed for such purpose.

C. Step Ladders

1. Stepladders must be fully open, and the spreader set in the open and locked position.
2. Step ladders shall be selected to meet the requirements of the person, task and environment. Consideration shall be given to the length or height required, working load, duty rating, worker position to the task and frequency in which the ladder will be used.
3. Step ladders shall be restricted to the purpose for which was the ladder was designed. For example, a step ladder should not be used as a straight ladder.
4. The top three steps of the ladder shall not be stood on or worked from. No personnel may stand or climb on the back side (non-working side) of a ladder, except where the ladder was designed for such purpose.
5. Step ladders shall only be used by one person, except where designed for use by more than one person.
6. Ladders shall be placed on a secure and level footing. When necessary, ladder levelers shall be used to achieve equal rail support on uneven surfaces. Ladders shall never be placed on boxes, barrels, or other unstable surfaces.
7. Ladders are not to be moved or shifted while occupied.
8. Ladders shall have nonconductive side rails if they are used where the employee or the ladder could contact exposed energized electrical equipment.
9. Ladders used in doorways, aisle ways or roadways shall be protected from incidental contact.
10. Employees shall climb or work from the ladder with the body positioned near the middle of the step or rung. Overextending or reaching where the belt buckle extends beyond the side rails is not permitted, except where the user is protected by a personal fall arrest system.
11. Do not lean a stepladder against a wall in the unopened position.
12. Always ascend and descend facing the ladder.
13. Do not exceed the designated weight capacity.

5.41. LEAD-BASED PAINT

- A. The CONTRACTOR shall identify any Lead-Based Paint (LBP) or products within the Work PRIOR to any construction, remodeling, or demolition activities.
- B. The CONTRACTOR shall identify any sheet lead, such as in laboratories or x-ray facilities prior to commencing demolition or construction activities.
- C. The CONTRACTOR shall arrange for disposal of the hazardous waste stream (e.g., paint chips), through OC SAN.
- D. All employees and supervisors who perform lead abatement Work shall have a current training certificate by a California Department of Public Health approved trainer.
- E. The Contractor stabilizing loose and flaky LBP shall utilize industry standard lead safe work practices and controls.

5.42. CORROSIVE MATERIALS

- A. Contractors shall not store, handle, apply or use acids or caustics until a proper procedure has been developed.
- B. Never add water to acid - if dilution is needed, add acid to water.
- C. Emergency eyewash and/or shower facilities must be immediately available to any person working with acids and caustics.
- D. Proper personal protection must include a face shield, goggles, apron, chemical resistant gloves, and sleeve lets as well as any other equipment deemed necessary by the SDS or manufacturer's usage instructions. Gloves shall be equipped with rolled cuffs.

5.43. CONTROL OF HAZARDOUS ENERGY

A. General

- 1. Contractors must have a written LOTO program that meets or exceeds Cal/OSHA regulations, including requirements of this section.
- 2. OC SAN will administer LOTO, including the development of energy control procedures, for OC SAN owned or operated equipment or facilities.
 - a. Contractors are responsible for verification and shall apply personal locks and tags to OC SAN Group Lockbox.
 - b. OC SAN shall not release energized equipment to the Contractors, with exception to the following:
 - 1) Equipment that is cord and plug may be unplugged by a Contractor if it is the only source of hazardous energy and maintained under exclusive control by the Contractor.
 - 2) Equipment that will be tested by a Contractor as part of the routine servicing of the equipment may be energized provided that the Contractor's authorized employee is made aware that the equipment is energized. Contractors shall implement necessary engineering and administrative controls to render the equipment safe.
 - c. OC SAN will isolate equipment using OC SAN provided lockout devices. Contractors are not required to provide lockout devices. Contractors' employees will apply personal locks and tags to the Group Lockbox.
 - d. OC SAN PAE (Primary Authorized Employee) must be the first to lock on and the last to lock off the Group Lockbox.
- 3. Contractors are responsible for LOTO on the Contractor rented or owned equipment. Contractors shall develop written energy control procedures for the Contractor rented or owned equipment. Contractors are responsible for provision and retention of such procedures. LOTO on such equipment shall be performed in accordance with Cal/OSHA regulations. Contractors must submit written energy control procedures to the ENGINEER for lockout of the Contractor rented or owned equipment that may affect OC SAN employees or facilities. The Contractor shall provide records of the energy control procedures to OC SAN PAE.
- 4. The Contractor's personnel performing or directly supervising construction-related activities that contain or store hazardous energy must be trained as a LOTO Authorized Employee. Contractors are responsible for this training.

5. The CONTRACTOR shall coordinate shutdown requests with the designated INSPECTOR, who in turn will coordinate with OC SAN PAE. LOTO on OC SAN owned or operated equipment or facilities will be performed under the direction of an OC SAN PAE utilizing Group LOTO.
6. The CONTRACTOR shall verify isolation of hazardous energy with OC SAN PAE and the INSPECTOR. The CONTRACTOR is responsible for communicating the LOTO to its employees and Contractors, including verification.
7. Contractors shall supply unique and personally identifiable keyed locks for lockout to each Authorized Employee. Locks issued to an Authorized Employee can only contain one key, which remains in the possession of the Authorized Employee in which the locks were issued. This personal key cannot be left in the lock for convenience.
8. Contractors shall apply lockout device(s) only under the direction of an OC SAN PAE when OC SAN is operating energy isolating devices.
9. Contractor's personnel shall not manipulate energy isolation devices or lockout devices on machinery, equipment, or facilities.
10. It is the responsibility of the Contractor's employee to verify that all hazardous energy has been isolated and released prior to the start of the Work.
11. Contractor's employees shall remove all personal locks and tags once they have completed the Work.

B. Energy Control Procedures

1. Equipment to be de-energized and released to a Contractor for repair, servicing, maintenance, or construction shall have a written energy control procedure that includes the steps to follow to ensure that equipment will be de-energized and to verify that hazardous energy has been released. The procedure shall be developed by OC SAN. A hard copy of the energy control procedure shall be provided in the field.
2. Moveable parts shall be mechanically blocked or locked out prior to cleaning, servicing, or adjusting operations. Residual energy may exist in the system. Contractors shall always assume that hazardous energy remains in the system when line breaking and working on electrical systems. Contractors are responsible for their own verification.
3. Equipment that has lockable controls or that is readily adaptable to lockable controls shall be locked out or positively sealed in the off position.
4. Isolating and de-energizing of equipment may begin prior to Contractor's arrival on site. The CONTRACTOR PAE in the presence of an OC SAN PAE and the INSPECTOR shall verify that all hazardous energy has been de-energized and controlled before the Contractor commence the Work. It will be the responsibility of the CONTRACTOR PAE to inform each Contractor's employee working on the equipment regarding the LOTO procedures implemented and verification steps used to control all identified hazardous energy before commencing the Work. The CONTRACTOR PAE shall ensure that each employee who could be injured by the inadvertent re-energization of the equipment place their individual employee lock on the group lock out box.

C. Electrical LOTO

1. LOTO points of disconnect shall be established between the Contractor, the INSPECTOR and OC SAN staff. The point of disconnect shall be modified as the Work progresses through the Project and equipment is turned over to OC SAN through Beneficial Occupancy.
2. The opening and closing of all existing OC SAN circuits shall be performed by OC SAN staff.
3. OC SAN staff will open and close all OC SAN and the Contractor's medium-voltage circuits, including the Contractor 12kV switchgear breakers and 12kV load interrupter switches. All medium-voltage circuits shall be jointly locked out and tagged out by OC SAN and the Contractor.
4. The Contractor shall open and close their 480V switchgear breakers and perform LOTO prior the Beneficial Occupancy of any load on the 480V switchgear. Once a 480V load on the Contractor's 480V switchgear achieves Beneficial Occupancy, OC SAN will control the opening and closing of all 480V switchgear breakers with lock out and tag out jointly performed by OC SAN and the Contractor.
5. The Contractor shall open and close the 480V motor control center main, feeder breakers and motor starters and perform LOTO prior to the
6. Beneficial Occupancy of any load on the motor control center. Once a load on the motor control center achieves Beneficial Occupancy, OC SAN will control the opening and closing of the motor control center main breaker and the feeder breakers and motor starters associated with the loads being beneficially occupied.
7. The Contractor shall open and close 480V, 120/208Y, and 120/240 panelboard circuits breakers and perform LOTO prior to Beneficial Occupancy of a load. Once a load on the panelboard achieves Beneficial Occupancy, OC SAN will control the opening and closing of the panelboard main breaker and the feeder breakers associated with the loads being beneficially occupied.

D. Duties of the Contractor's personnel

1. Do not manipulate isolation devices on process equipment.
2. Apply locks and tags only under the direction of an OC SAN PAE.
3. Apply lock to isolation devices that are lockable.
4. Once the authorized person completes or leaves the work task indefinitely or for the day, they must remove their personal locks and tags. Authorized persons joining the Work task, must place their locks and tags on the isolation devices prior to any potential exposure to hazardous energy.
5. Each Authorized Employee working on the equipment shall review the energy control procedure, verify release of residual and stored energy, verify isolation, and verify that the equipment cannot be inadvertently re-energized.
6. Each employee working on the equipment shall be responsible for attaching their personal locks without exception. No employee shall perform Work under another Authorized Employee's lockout or tagout devices. Employees shall maintain possession of their own key.
7. Authorized employees who arrive later to the work site shall not work on the isolated equipment until they have reviewed the control procedure, conducted a

visual and physical verification of all isolation points, and attached their personal lock and tag on the group lockbox.

E. Shift/Personnel Change

1. Transfer of control will occur between authorized personnel only. The PAE shall be responsible for transferring LOTO authority to the next shifts PAE.
2. The PAE shall not remove their personal lock(s) from any of the lockout devices or group lockbox until the arriving PAE has applied their personal lock and tags.
3. During transfer of LOTO authority between arriving and outgoing PAEs, the following must be performed:
 - a. Ensure that all Authorized Employees who are leaving the work site have removed their personal locks.
 - b. All oncoming shift Authorized Employees shall review the control procedure and verify that all the isolated machinery, equipment, or systems are in the proper positions and secured by group locks and
 - c. tags. Each time an Authorized Employee attaches their personal lock, they must physically and visually verify that the equipment is still isolated, per the energy control procedure.
 - d. Once the verification is completed, all oncoming shift Authorized Employees shall attach their personal lock and tag to the group lock box, and then they may resume the Work.
 - e. All Affected Employees in the job site area shall be notified that the Work is in progress.
 - f. The control procedure shall remain attached to the Group Lockbox to allow the oncoming Authorized Employees an opportunity to review and verify the LOTO conducted.

F. Lockout and Tagout Device Removal

1. Lockout and tagout devices shall only be removed by the Contractor Authorized Employee that applied the lockout and tagout device. Each employee must apply their own lock and maintain possession of their own key.
2. The Contractor shall not re-energize any equipment unless in the presence of OC SAN Authorized Employee.
3. The Contractor must follow Cal/OSHA requirements for cutting off locks of any OC SAN employee or the Contractor employee whose lock or tag remains on equipment that needs to be demolished or energized.
 - a. If an OC SAN lock and tag remain on equipment, the Contractor shall notify OC SAN for the lock and/or tag to be removed. The Contractor shall never remove equipment that contains OC SAN locks or tags. OC SAN will coordinate with the Contractor to account for the whereabouts of its employees and remove OC SAN locks and tags.
 - b. The Contractor shall account for the whereabouts of its own employees.
4. The INSPECTOR is responsible for notifying OC SAN PAE when the Contractor Work is complete, and all the Contractor locks and tags have been removed.

G. Locks

1. Contractors shall supply unique and personally identifiable keyed locks to each Authorized Employee.
2. Locks issued to an Authorized Employee may only contain one key, which remains in possession of the Authorized Employee in which the locks were issued. Note: OC SAN will not provide locks for Contractor's use.
3. Locks shall only be used for energy isolation of machinery, equipment, and/or facilities and not to be used for another purpose.

H. Tags

1. Tags shall be of sufficient material that is capable of enduring adverse conditions (weather, wet locations, corrosive materials, etc.) that will not cause the tag to deteriorate or message on tag to become illegible.
2. Tags must offer clean instructions such as: "Do Not Start", "Do Not Open", "Do Not Close", "Do Not Energize" or "Do Not Operate". Tags must include standard language of "Danger". The tags must be black, red, and white.
3. OC SAN will not provide tags for Contractor's use.
4. Tags shall contain at a minimum the following legible information:
 - a. Name of person placing tag
 - b. Phone number of persons placing tag
 - c. Date of installation
 - d. Reason for application
5. Tags installed as a tagout device shall be installed to prevent inadvertent or accidental removal. The securing means shall be of sufficient strength to prevent removal without destroying the securing means (such as a zip or cable tie) or require the use of a tool to remove it.
6. Tags installed on a lock shall be affixed to the lock through the manufactured eyelet.

I. OC SAN Oversight

1. OC SAN shall designate staff to ensure that Contractors follow these Contractor Safety Standards.
2. OC SAN personnel shall be the first persons to place a lock and tag before Contractor starts the Work and the last to remove the lock and tag when the Contractor complete the Work.
3. Group lockboxes shall be implemented by the designated OC SAN PAE when the total staff affected is greater than three.
4. Under no circumstance shall Contractors' employees locks and tags be on equipment without being accompanied by either an OC SAN lock unless it is a newly constructed piece of equipment still under the CONTRACTOR's control.

5.44. MOTOR VEHICLES

- A. All employees driving job site motor vehicles shall have a valid driver's license for the state in which the employee resides and for the class of vehicle driven. Vehicles need to be registered with the Department of Motor Vehicles.

- B. Drivers of vehicles over 26,000 pounds gross vehicle weight (GVW) are required by Federal and State Departments of Transportation regulations to possess a Commercial Driver's License (CDL).
- C. Drivers on the Project site shall obey all street and highway speed and traffic laws.
- D. Posted speed for the plants is 15 mph but shall not drive any faster than is safe.
- E. Drivers are to limit their speed to 10 mph in construction zones.
- F. Drivers shall check the mechanical condition of their vehicles at least daily.
- G. Drivers are required to observe the "right of way" rule. Yield to other drivers whose driving actions demand the right-of-way or have obscured visibility.
- H. Drive defensively. Anticipate what the other driver may do. Leave yourself an out.
- I. Drivers shall keep a distance of AT LEAST one vehicle length for each 10 miles of speed between their vehicle and the vehicle in front of them.
- J. Employees driving and riding in the Contractors' vehicles must wear seat belts.
- K. Block or chock vehicle wheels when parking on inclines.
- L. All passengers in motor vehicles must be seated and within the confines of the vehicle.
- M. All vehicles must be shut off when unoccupied.
- N. Pedestrians and cyclists have the right of way.
- O. Parking shall be in specified areas only. Do not block entrances and do not park in reserved spaces or in fire lanes marked by a red curb.
- P. Contractors are responsible for the stability of any material being hauled.
- Q. Employees are not allowed to ride in the open bed of a pickup truck.
- R. Unauthorized passengers shall not be transported in any vehicle or on any equipment at any time.

5.45. OVERHEAD UTILITIES

- A. The CONTRACTOR shall identify all overhead utilities prior to the start of any Work.
- B. The CONTRACTOR shall identify the voltage carried by each power line and identify the minimum required clearances prior to commencing Work near the line.
 - 1. Identifications of all lines and minimum clearances shall be documented on a site plan that is made available to all employees and Contractors.
 - 2. This site plan shall include identification of all lines that are within 42 feet of the perimeter of the site.
 - 3. Temporary utilities shall be added to the site plan as required by the CONTRACTOR.
- C. Proper distances must be maintained from all overhead power lines as described in the following table:

Power line voltage Phase to phase (kV)	Minimum Safe Clearance (ft)
50 or below	10
Above 200 to 350	20
Above 350 to 500	25
Above 500 to 750	35
Above 750 to 1,000	45

- D. When working less than 10 feet from a power line, power lines shall be locked out and visually grounded.
- E. Guy wires shall be delineated and protected.

5.46. PERMITS

- A. Unless otherwise stated in the Contract Documents, Contractors shall obtain relevant permits pertinent to the safety of employees and operations.
- B. Permits shall be available for review at the job site upon request of the ENGINEER or Risk Management.
- C. If a bulk fuel storage tank will be used on the Project, then the CONTRACTOR must obtain a Bulk Fuel permit from the local Fire Department having jurisdiction. The tank permit shall be submitted to the ENGINEER and Risk Management using OC SAN's PCMS.
- D. The CONTRACTOR shall obtain, and post Cal/OSHA Activity Permits for the following construction activities:
 - 1. Construction of trenches or excavations which are 5 feet or deeper and into which a person is required to descend.
 - 2. Constructions of any building, structure, scaffolding, or false work more than 3 stories high, or the equivalent height (36 feet).
 - 3. Demolitions of any building structure or dismantling of scaffolding or false work more than 3 stories high, or the equivalent height (36 feet).
 - 4. Erection or dismantling of vertical shoring systems more than 3 stories high, or the equivalent height (36 feet).
 - 5. Use of fixed or mobile tower cranes.
- E. OC SAN also requires permits for Work it considers to be high hazard; the Work that requires OC SAN acceptance includes Confined Space Entry, Use of OC SAN equipment, and Hot work, LTV for Energized Systems, Hazardous Materials usage, Concurrent/Dual Employer Work Activities, and Spray Painting.

5.47. PERSONAL PROTECTIVE EQUIPMENT

- A. General
 - 1. Contractors shall ensure that employees are trained in the proper use, care, sanitation, and limitations of PPE in accordance with applicable OSHA Standards and manufacturer's instructions and recommendations.
 - 2. Contractors shall assess the workplace to determine if hazards that require the use of personal protective equipment are present or are likely to be present.
 - 3. Contractors shall provide personal 4-gas meters to all effected staff, including subcontractors.

4. PPE must be properly fitted.
5. Employee dress should be neat in appearance and consistent with good dressing attire, no large holes, obscenities, or inappropriate images.
6. Shirts and long pants must be worn always on the site. Sleeveless shirts, tank tops, and shorts are not permitted. Clothing should not be torn or frayed.
7. Clothing contaminated by oily, flammable, toxic or caustic materials should not be worn until properly cleaned.
8. Certain tasks may require the wearing of fire-resistant materials, such as Nomex[®] or leather. In such circumstances, extremely flammable clothing material such as nylon should be discouraged.
9. In multi-employer worksites, Contractors must comply with whichever Contractor requirements are the most stringent.
10. Contractors are responsible to supply required personal protective equipment to their employees.
11. Gloves shall be worn and based on the hazards present.
12. Hearing protection shall be worn in high noise areas and/or where required by job safety analysis.

B. Head/Face Protection

1. Employees must wear hard hats complying with or exceeding the requirements of ANSI Z89.1-2014 while on the job site. "Cowboy" and similar novelty hard hats are not permitted.
2. Safety eye protection shall be worn at all times.
3. All safety glasses, goggles, and face shields must meet or exceed the requirements of ANSI Z87.1-2015.
4. The addition of side shields to prescription safety glasses is not permitted unless the side shields meet the ANSI standards.
5. Face shields must be worn in conjunction with safety glasses when grinding, chipping, jack hammering, and power sawing, or conducting other tasks that involve serious face/eye hazards.

C. Respiratory Protection

1. Employees who are required to wear respiratory protection must receive a medical assessment of their physical ability to wear the equipment, be properly fit tested, and trained in the use, care, storage, maintenance, and limitations of the respiratory device.
2. Contractors must be able to show how respiratory protection was determined to provide adequate protection to employees by either industrial hygiene data or representative data from a previous project.

D. High-Visibility Safety Apparel

1. At a minimum, Contractors' employees shall wear ANSI Class 2 safety vest while working within the following areas:
 - a. Plant 1 and Plant 2 treatment areas
 - b. Pump station electrical rooms, pump rooms, and exterior spaces within OC SAN property fencing.

- c. Where the potential exists for exposure to vehicular traffic.
 - d. When working in vicinity of operating mobile equipment.
 - e. OC SAN construction sites.
2. Contractors' employees shall wear ANSI Class 3 safety vest while working in the following area:
- a. Public right of way where vehicle traffic exceeds 50 miles per hour.
 - b. Off plant when working adjacent to public right of way and not protected by OC SAN property fencing.
 - c. OC SAN construction sites outside of Plant 1 and Plant 2.
 - d. During nighttime work, and/or when working along a federal aid highway during daytime or nighttime hours.
- E. Safety Footwear
- 1. Tennis shoes, sneakers, open-toed shoes, and sandals are prohibited in construction areas.
 - 2. Safety footwear meeting the requirements of ASTM F2413, "Standard Specification for Performance Requirements for Foot Protection", is required in construction and process areas. ASTM numbers must be legible on the tongue or insides of shoes.
 - 3. Protective footwear shall be selected based on hazards associated with work tasks/activities (i.e., electrical hazards, puncture hazards, crush hazards, heat).
 - 4. Soles should be made of slip-resistant materials, and not worn to the point where slip resistance is compromised.
 - 5. Footwear shall have protective toecaps (i.e., composite, steel).

5.48. POSTING REQUIREMENTS

- A. The CONTRACTOR shall be required to construct a weatherproof job site bulletin board. Federal and State regulations require the CONTRACTOR to conspicuously display all required posters at locations where employees report or normally congregate each day.
- B. At minimum, the following items shall be posted:
- 1. Industrial Welfare Commission's Order Regulating Wages, Hours, and Working Conditions
 - a. Pay Day Notice
 - b. OSHA "Job Safety and Health Protection"
 - c. Employer's "Code of Safe Practices" / Safety Rules
 - d. Discrimination in Employment is Prohibited by Law
 - e. Sexual Harassment Poster
 - f. Americans with Disabilities Act (ADA)
 - g. Notice of Compensation Carrier
 - h. Notice to Employees of Unemployment Insurance and Disability Insurance
 - i. Cal/OSHA Operating Rules for Industrial Trucks
 - j. Emergency Telephone Numbers

5.49. POWDER-ACTUATED TOOLS

- A. Powder-actuated tools must meet or exceed the requirements of ANSI A10-3.1977.
- B. Only trained workers holding a valid operator's card can use a powder-actuated tool.
- C. Containers for powder-actuated tools must be lockable and bear the label POWDER-ACTUATED TOOL on the outside. The container must be kept under lock and key storage. The following must be provided with each tool:
 - 1. Operating and service manuals.
 - 2. Power load chart.
 - 3. Inspection-Service record.
 - 4. Repair and servicing tools.
- D. Eye or face protection is required for operators and assistants.
- E. Tools must be inspected prior to use. Defective tools must not be used.
- F. Powder-actuated tools must not be left unattended.
- G. Powder-actuated tools must be unloaded if work is interrupted. Tools must not be loaded until ready for use.
- H. On misfire, the tool must be held in place for 30 seconds.
- I. Misfires shall be placed in a can of water.
- J. Different power loads must be kept in separate compartments.
- K. Warning signs must be posted bearing the words: "POWDER-ACTUATED TOOLS IN USE" within 50 feet of the point of use.
- L. The Work must be evaluated to determine if a hot work permit is required when using powder-actuated tools.

5.50. PUBLIC PROTECTION PLAN

- A. The CONTRACTOR shall develop a Public Protection Plan prior to the commencement of the Work. The Public Protection Plan shall be reviewed and revised as necessary throughout the Project.
 - 1. The plan shall be in writing and available at the job site for review upon request.
 - 2. For the purposes of this section, "Public" refers to parties not involved in the execution of the Work related to this Project.
- B. The Public Protection Plan shall include following components:
 - 1. Policy statement
 - 2. Assignment of responsibilities
 - 3. Identification of existing and predictable public concerns
 - 4. Provisions to monitor and inspect the implementation of the Public Protection Plan
 - 5. Provisions for incident investigation
 - 6. Hazard abatement procedures

- C. The Public Protection Plan shall consider at minimum the following items as they apply to the Project:
1. Noise
 2. Dust, Fumes, Mists, Smoke, Vapors, Gasses, Odors
 3. Traffic Hazards
 4. Pedestrian and Bicyclist Hazards
 5. Radiation (including lasers, x-rays, and welding rays)
 6. Machinery and Vehicles
 7. Falling Objects
 8. Wind-Borne Objects
 9. Security
 10. Utilities
 11. Hazardous Materials and Hazardous Substances (including use and storage)
 12. Response to Incidents Involving the Public
 13. Public Demonstrations or Protests

5.51. SANITATION

- A. The CONTRACTOR must provide in a clean and sanitary condition:
1. All potable water for drinking
 2. Adequate toilet facilities and wash facilities
 3. Hand wash facilities as required by the Safety Data Sheet or state standards.
 4. Appropriate containers for disposal of garbage
- B. A minimum of one separate toilet facility shall be provided for each twenty employees or fraction thereof of each sex.
- C. Toilet facilities shall be kept clean, maintained in good working order, designed, and maintained in a manner that will assure privacy, and provided with an adequate supply of toilet paper.
- D. Employees shall not drink the plant water or other liquids involved with the treatment process.

5.52. SCAFFOLDS

- A. Scaffolds shall be erected, moved, dismantled, or altered only under the supervision and direction of a Competent Person qualified in scaffold erection, moving, dismantling or alteration.
- B. The CONTRACTOR and Subcontractors (through the CONTRACTOR) shall provide a copy of the competent person evaluation and the Competent Person will sign off on scaffolds that are erected prior to use.
- C. The CONTRACTOR shall have a Competent Person determine the feasibility and safety of providing fall protection for employees erecting or dismantling supported scaffolds. Fall protection is required for employees erecting or dismantling supported scaffolds where the installation and use of such protection is feasible and does not create a greater hazard. During erection and dismantling, 100% fall protection shall be always utilized.

- D. Contractors shall have each employee who performs Work while on a scaffold trained by a person qualified in the subject matter to recognize the hazards associated with the type of scaffold being used and to understand the procedures to control or minimize those hazards. The training shall include the following topics, as applicable:
 - 1. The nature of any electrical hazards, fall hazards, and falling object hazards in the work area.
 - 2. The correct procedures for dealing with electrical hazards.
 - 3. The correct procedures for erecting, maintaining, and dismantling the fall protection and falling object protection systems being used.
 - 4. The proper use of the scaffold, including the proper handling of materials on the scaffold.
 - 5. The maximum intended load and the load-carrying capacities of the scaffold
 - 6. Any other pertinent procedures or safety requirements
- E. Contractors shall have each employee who is involved in erecting, disassembling, moving, operating, repairing, maintaining, or inspecting a scaffold trained by a Competent Person to recognize any hazards associated with the Work in question. The training shall include the following topics, as applicable:
 - 1. The nature of scaffold hazards
 - 2. The correct procedures for erecting, disassembling, moving, operating, repairing, inspecting, and maintaining the type of scaffold in question.
 - 3. The design criteria, maximum intended load-carrying capacity, and intended use of the scaffold.
 - 4. Any other pertinent procedures or safety requirements
- F. When Contractors have reason to believe that an employee lacks the skill or understanding needed for safe work involving the erection, use or dismantling of scaffolds, the Contractor shall retrain each such employee so that the requisite proficiency is regained.
- G. Handrails, midrails, and toeboards are required on all scaffolds over 6 feet high.
- H. If the guardrail system is incomplete or missing, personal fall protection is required.
- I. A ladder or other acceptable means for access must be provided.
- J. Wheels must be locked on rolling scaffolds before use.
- K. There is no riding of manually propelled scaffolds.
- L. All connections, including casters, on rolling scaffolds shall be pinned.
- M. Contractors shall keep the platform load within the safe platform workload limit.
- N. Scaffolds must be erected level on a firm base. When the scaffold is resting on earth or other such material, the uprights shall rest on and be secured to the equivalent of a 2-inch by 10-inch by 10-inch wood base.
- O. Suspended scaffolds must have adequate anchorage points. Occupants shall have a full body harness, lifeline and deceleration device that must be attached to a separate anchorage point than that of the scaffold prior to stepping out onto any suspended scaffold over 10 feet per OSHA.

- P. Scaffold planks must be laid tight and secured to prevent movement. Planks must overlap between 6 and 12 inches over the scaffold supports.
- Q. A stair tower or built-in stair/ladder system shall be provided for access to all scaffolds four frames or more in height.
- R. All scaffolds shall be inspected and tagged to identify that they meet the requirements for use by a Competent Person prior to initial use, before each work shift, and after any event that could affect the structural integrity or safety of the scaffold. Scaffolds that are not tagged shall not be used.

5.53. ERECTION

- A. No building, structure, or part thereof, or any temporary support shall be loaded more than its designed capacity.
- B. Trusses and beams shall be braced laterally and progressively during construction to prevent buckling or overturning.
- C. During placing of structural members, the load shall not be released from the hoisting line until the members are secured with not less than two bolts drawn up wrench tight.
- D. Where skeleton steel is being erected, a tightly planked and substantial floor shall be maintained within two stories or 30 feet, whichever is less, below, and directly under that portion of each tier of beams on which any Work is being performed.
- E. When connecting beams at the periphery or interior of a building or structure where the fall distance is greater than 6 feet, the connector shall be provided with and use appropriate personal fall protection equipment in accordance with Cal/OSHA requirements.
 - 1. Connector means an employee who, working with hoisting equipment, is placing, and connecting beams or other structural members.
 - 2. When performing Work other than connecting, employees shall be provided and use personal fall protection equipment in accordance with Cal/OSHA requirements where the fall distance is greater than 6 feet.
- F. Open web steel joists shall not be placed on any structural steel framework unless such framework is safely bolted or welded.
- G. Containers shall be provided for storing or carrying rivets, bolts, and drift pins, and secured against accidental displacement when aloft.
- H. When bolts or drift pins are being knocked out, means shall be provided to keep them from falling.
- I. Impact wrenches shall be provided with a locking device for retaining the socket.
- J. Connections of equipment used in plumbing-up shall be properly secured.
- K. Turnbuckles shall be secured to prevent unwinding while under stress.
- L. Plumbing-up guys shall be removed only under the supervision of a Competent Person.
- M. Employees working above grade or any surface and exposed to protruding reinforcing steel or other similar projections shall be protected against the hazard of impalement using guardrails, or approved fall protection systems, or protective covers.
- N. Exposed edges of all temporary planked or temporary metal decked floors at the periphery of the building, or at interior openings, such as stairways and elevator

shafts shall be protected by a single 3/8-inch minimum diameter wire rope located between 42 and 45 inches above design finish floor height. Midrail protection shall be installed at the completion of the installation of decking.

- O. Employees shall be trained in accordance with applicable Cal/OSHA standards and Project-specific requirements.

5.54. TAR AND MELTING POTS

- A. Any melting chamber must be vented and must have a working thermometer.
- B. No melting pots or tar kettles may be located on roof surfaces. All melting pots must be on the ground outside, and at least 25 feet from any building.
- C. Pipelines shall be adequately braced or supported to prevent collapse.
- D. Barricades must be provided when hot liquids are present overhead on a roof or upper floor.
- E. Buckets containing hot asphalt or pitch shall not be carried on ladders.
- F. A fire extinguisher shall be kept near each kettle in use. Extinguisher capacity shall be at least:
 - 1. Less than 150-gallon kettle – 8: B.C.
 - 2. 150 to 350-gallon kettle – 16: B.C.
 - 3. Larger than 350-gallon kettle – 20: B.C.
- G. At a minimum, an 8: BC fire extinguisher shall be kept near each kettle in use.
- H. Kettle and tanker pumps shall be provided with a means of stopping the flow of hot asphalt or pitch manually from the rooftop in emergencies.
- I. Pumper pipelines shall be securely fastened at the rooftop and shall not be supported by ladders used for access.

5.55. WARNING SIGNS

- A. The CONTRACTOR shall post site access and warning signage, including emergency contact information, in accordance with applicable requirements.
- B. Project employees shall obey all warning signs.
- C. Signage shall be maintained in legible condition and cleaned or replaced as necessary to maintain legibility.
- D. All warning signs, signals, and barricades installed by the Contractors must be removed when the hazard no longer exists.
- E. The CONTRACTOR shall monitor conditions to ensure timely and accurate removal of these devices.
- F. Danger tape, caution tape, barricades, rope, and any other warning lines shall have signage to explain the nature of the hazard.

5.56. WORK ZONE TRAFFIC CONTROL

- A. The CONTRACTOR shall establish work area protection zones necessary to protect employees and the public when Work is performed in areas where pedestrians or vehicles have access.
- B. All employees in work zones shall wear Class II or Class III reflectorized garments in accordance with the requirements of the U.S. Department of Transportation Manual on Uniform Traffic Control Devices (MUTCD).

- C. Traffic control shall be established in compliance with the MUTCD, State and local traffic control regulations, the WATCH Handbook (where referenced by contract), or other contract-referenced documents/standards and approved by the agency having jurisdiction.
- D. The CONTRACTOR shall establish Work Area Protection in consideration of the location of the worksite, pedestrian and traffic conditions, and the time of day (daylight or dark).
- E. The CONTRACTOR shall ensure adequate protection to passing vehicles on a roadway by providing a Flagger when barricades, signs and signals may be insufficient.
- F. When placing or removing Work Area Protection, the employee shall:
 - 1. Be consistently alert to traffic conditions.
 - 2. Face oncoming traffic.
 - 3. Wear proper personal protection (e.g., traffic warning vest, hard hat, eye protection).
- G. Place the initial warning sign (e.g., Construction Ahead) first and remove last.
- H. Work zone sites must be made safe for pedestrians by using:
 - 1. Rope or vinyl warning tape.
 - 2. Fencing or other barricades.
 - 3. Cones and signs.
 - 4. Pedestrian crossings (designated and painted).
 - 5. Other appropriate means, methods, and devices.
- I. All night Work requires adequate illumination to light the work area and warn public vehicular traffic.
- J. For night Work, the illumination used to light the work area shall be aimed such that it does not create glare for, or blind, the public driving through the work zone.
- K. The CONTRACTOR shall ensure adequate protection to passing vehicles on a roadway by providing a Flagger when barricades, signs and signals may be insufficient.

5.57. FLAGGING OPERATIONS

- A. Flagging Operations shall be conducted in accordance with the following unless a more specific standard applies.
- B. Flaggers shall be trained in the proper fundamentals of flagging (signaling) traffic before being assigned as Flaggers.
- C. The Flagger must be protected, and the motorist forewarned by use of warning signs and cones.
- D. Use cones before the Flaggers position to mark the traffic lane.
- E. The use of high visibility orange or Class III yellow vests shall be required to all Flaggers.
- F. During the hours of darkness, the Flaggers shall be outfitted with a reflectorized garment, and the Flagger's position shall be illuminated.

- G. To Stop Traffic - The Flagger shall face traffic and hold the stop paddle in a vertical position at arm's length.
- H. When It Is Safe for Traffic to Proceed - The Flagger shall stand parallel to the traffic movement, and with the slow paddle held in a vertical position at arm's length.
- I. Flags shall be a minimum of 18-inches x 18-inches in size, and orange in color.

5.58. PLATE BRIDGING

- A. Trenches, excavations, or other surface openings or significant depressions must be covered with a bridge plate to permit safe and unobstructed flow of traffic.
- B. Bridging plates must be secured from movement by a holding device(s) such as cleats, angles, bolts, tack welding, etc., regardless of the elevation below.
- C. Bridging plates must be installed to produce a minimum amount of noise and be recessed or have appropriate asphalt tapers at edges, per OC SAN or city requirements.
- D. Bridging plates must extend a minimum of one foot beyond the edges, with pavement materials feathering the edges for a reasonably smooth transition and installed in accordance with manufacturer/engineer instructions.
- E. Warning signs shall be posted when steel plates are used in a travel path.
- F. Refer to the WATCH Manual (where applicable) for specific requirements.

5.59. WORKING AROUND WATER

- A. Where Contractor's employees are not protected from falling into water by railing, netting, or body positioning devices the following safety devices shall be provided for and used by employees at those locations where the danger of drowning exists.
- B. Personal Flotation Devices (PFD). Any employee who has the potential for falling into water shall be required to wear U. S. Coast Guard approved personal flotation devices that are marked or labeled Type I PFD, Type II PFD, or Type III PFD, or a U.S. Coast Guard approved Type V PFD that is marked or labeled for use as a work vest for commercial use or for use on vessels.
- C. Ring Buoys. U. S. Coast Guard approved 30-inch ring buoys with at least 150 feet of 600-pound capacity line shall be readily available for emergency rescue operations. Distance between ring buoys shall not exceed 200 feet.
- D. Lifesaving Boats. One or more lifesaving boats, either manually or power-operated, shall be provided and readily accessible always. Lifesaving boats shall be properly maintained, ready for emergency use and equipped with oars and oarlocks attached to the gunwales, boathook, anchor, ring buoy with 50 feet of 600-pound capacity line and two life preservers. Oars are not required on boats that are powered by an inboard motor.
- E. Where, because of swift current, lifeboats cannot be used, a line shall be stretched across the stream with tag lines or floating planks trailing in the water at intervals not to exceed 6 feet. If this is impracticable, some other arrangement for providing effective lifelines near the water surface shall be provided.

5.60. USE OF X-RAY

- A. If X-Ray is utilized for any part of the Project, OC SAN must be notified at least two weeks prior to the use of X-Ray. The area in question shall be isolated prior to any X-Ray use.

- B. OC SAN may require all X-Ray work to occur during afterhours to minimize exposure of OC SAN employees. Proper warning signs and delineation will be required.
- C. Contractors performing non-destructive testing (NDT) shall notify the ENGINEER and Risk Management regarding hazards associated with such testing. Contractors performing NDT shall establish administrative controls to protect Contractor's employees and OC SAN before examination. Controls shall be approved by the ENGINEER and Risk Management.

6. DEFINITIONS

The following definitions may not reflect the actual titles and definitions in use by all entities on this Project and do not have any force or effect beyond their use in the Contractor Safety Standards. Due to such differences in nomenclature among owners and contractors, the following are used throughout the Contractor Safety Standards to establish the functional framework for the Safety Program.

Alternate Contractor Safety Manager (ACSM). Individual meeting the same requirements of the CSM that assumes the role of the CSM on a temporary basis.

Alternate Contractor Safety Representative (ACSR). Individual meeting the same requirements of the CSR that assumes the role of the CSR on a temporary basis.

Authorized Representative. The Orange County Sanitation District's Authorized Representative to act on behalf of OC SAN on a project.

Competent Person. One who can identify existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

CONTRACTOR. The individual, partnership, joint venture, corporation, or other combination thereof, identified as such in the Contract, and referred to throughout the Contract Documents as if singular in number and who directly contracts with OC SAN. The term "CONTRACTOR" means the CONTRACTOR or its authorized representative. For applicability of these Standards, the term "CONTRACTOR" also includes Service Vendor, Consultant, and any other entity that directly contracts with OC SAN.

Contractor. Unless otherwise specified, in these Contractor Safety Standards, Contractor includes CONTRACTOR and all its agents, Subcontractors, Service Vendors, suppliers, consultants, and vendors.

Contractor Project Manager (CPM). The senior on-site management person for the CONTRACTOR with responsibility for execution of the contract, including compliance with the Contractor Safety Standards. In some cases, the actual on-site representative may be a Superintendent or a Foreman. In such cases, this is the applicable person when the CPM is referenced. The CPM is responsible for the ongoing implementation and enforcement of the CONTRACTOR's Site-Specific Safety Program.

Contractor Project Superintendent (CPS). The senior on-site Superintendent for the CONTRACTOR with responsibility for execution of the contract, including compliance with the Contractor Safety Standards. In some cases, the actual on-site representative may be an Assistant Superintendent or a Foreman. In such cases, this is the applicable person when the CPS is referenced. The CPS is responsible for and accountable for the ongoing implementation and enforcement of the CONTRACTOR's Site-Specific Safety Program.

Contractor Safety Manager (CSM). If the Project will have and the CONTRACTOR will have the responsibility to manage 40 or more construction workers, the CONTRACTOR shall have a full-time Contractor Safety Manager assigned to the Project, to carry out the

duties as described in this document. The Contractor Safety Manager shall have no other duties other than safety (dedicated), regardless of the number of employees on site. In the absence of a Contractor Safety Manager, at a minimum, the CONTRACTOR will be responsible for having a CSR assigned to the Project. In addition, OC SAN reserves the right to require the CONTRACTOR to supply a CSM if the CONTRACTOR demonstrates the inability to manage safety in accordance with Cal/OSHA and OC SAN Contractor Safety Standards.

Contractor Safety Representative (CSR). The CONTRACTOR employee assigned safety responsibilities of implementing the CONTRACTOR's Safety program and Injury and Illness Prevention Program, including ongoing identification and correction of hazards for shift work and distinct work locations as required. The CSR reports to the CSM. Additional Subcontractor Safety Representative (SSR) personnel shall cover shift work and OC SAN work locations as required. The CONTRACTOR can delegate the CSR duties to an on-site Field Supervisor. CSR responsibilities cannot be delegated to an office or staff employee.

Control of Hazardous Energy (LOTO). The process of isolating energy sources (thermal, electrical, pneumatic, gravity, chemical, and hydraulic) to prevent employees from being exposed to unexpected release of energy by using a lock and tag to prevent the energy releases. Also referred to as Lockout Tagout (LOTO).

Contractor Safety Orientation (CSO). A briefing to orient the CONTRACTOR to general hazards at the work location, identify OC SAN expectations for safety performance, review emergency notification capabilities, and discuss the CONTRACTOR activities that may pose a hazard to OC SAN employees, visitors, and other Contractors.

ENGINEER. OC SAN's Director of Engineering or designee.

Foreman. The Contractor's first line of supervision or lead of a crew

Hazardous Area Classification. A method of evaluating a location or process for any risks (hazards) of explosion or fire that substances located there may be present and determining how best to minimize those risks for all probable circumstances that may be encountered. The location is divided up (that is, classified) into areas by risk level. Each area is assigned specific ventilation and electrical installation requirements. Areas with the highest risk level will have the most specialized requirements.

Injury and Illness Prevention Plan (IIPP). The IIPP is a basic written workplace safety program. Title 8 of the California Code of Regulations (T8CCR) section 3203 requires every employer to develop and employ an effective IIPP.

INSPECTOR. The individual(s) designated by the ENGINEER as the field Project representative with delegated authority to enforce the requirements of the Contract Documents, subject to the approval of the General Manager.

Job Hazard Analysis (JHA). An activity specific analysis that is completed for tasks such as confined space entry, hot-work, hazardous materials usage, and other activities required by the Contract Documents.

Non-Compliance. Is any violation, failure to comply, non-conformance, or infraction of the standards specified in these Contractor Safety Standards, or of any regulations to include State and Federal OSHA, DOT, NFPA, Building Codes, Fire Codes, and local ordinances.

OSHA. OSHA as used in the context of these Contractor Safety Standards refers to the State or Federal agency with jurisdiction over workplace occupational safety and health at the project site.

Owner. Orange County Sanitation District, the entity for which this project is being performed.

Owner Authorized Representative. The Owner's Employee or agent with overall responsibility for the project.

Qualified Person, Attendant or Operator. A person designated by the employer who by possession of a recognized degree, certificate, or professional standing, or who, by extensive knowledge, training, and experience, has successfully demonstrated his/her ability to solve or resolve problems relating to the subject matter, the work, or the project.

Risk Management. The Owner's Employee or agent with overall responsibility for the implementation of the Owner's Safety Program, including OC SAN Contractor Safety Standards.

Service Vendor. Any group, company or supplier providing non-construction related goods and services to OC SAN. All Service Vendors will be required to adhere to these Standards and the OSHA and Cal/OSHA General Industry Safety Orders.

Site-Specific Safety Program (SSSP). The Employer's Site-Specific Safety Program prepared in accordance with the requirements of this document and the Contract.

Subcontractor. One who is licensed pursuant to California Business and Professions Code, Section 7000 et. seq., and who contracts directly with the CONTRACTOR or with another Subcontractor to perform some part of the Work. A Subcontractor does not have any direct contract with OC SAN related to the Work.

Subcontractor Project Manager (SPM). The senior on-site management person for the Subcontractor with responsibility for execution of the contract, including compliance with OC SAN Contractor Safety Standards. In some cases, the actual on-site representative may be a Superintendent or a Foreman. In such cases, this is the applicable person when the SPM is referenced. The SPM is responsible for and accountable for the ongoing implementation and enforcement of the Subcontractor's Site-Specific Safety Program.

Subcontractor Project Superintendent (SPS). The senior on-site management person for the Subcontractor with responsibility for execution of the contract, including compliance with OC SAN Contractor Safety Standards. In some cases, the actual on-site representative may be an Assistant Superintendent or a Foreman. In such cases, this is the applicable person when the SPS is referenced. The SPS is responsible for and accountable for the ongoing implementation and enforcement of the Subcontractor's Site-Specific Safety Program.

Subcontractor Safety Manager (SSM). A dedicated full-time Subcontractor Employee assigned safety responsibilities for the project for Subcontractors having 40 or more employees. The SSM has the same responsibilities for safety of the Subcontractors that the CSM has for the CONTRACTOR.

Subcontractor Safety Representative (SSR). Subcontractor Employee assigned safety responsibilities of implementing the Subcontractor's Injury and Illness Prevention Program, including ongoing identification and correction of hazards for shift work and distinct work locations as required. The SSR reports to the SPM. Additional SSR personnel shall cover shift work and distinct work locations as required. The Subcontractor can delegate the SSR duties to an on-site Field Supervisor. SSR responsibilities cannot be delegated to an office or staff employee.

Superintendent. A management representative for the CONTRACTOR who oversees the Project.

7. ACRONYMS

The following acronyms may not reflect the actual acronyms in use by all entities on this Project and do not have any force or effect beyond their use in the Contractor Safety Standards. Due to such differences in nomenclature among owners and contractors, the

following are used throughout the Contractor Safety Standards to establish the functional framework for the Safety Program.

ACM	Asbestos-Containing Material
ACSM	Alternate Contractor Safety Manager
ACSR	Alternate Contractor Safety Representative
ANSI	American National Standards Institute
CDL	Commercial Driver License
CSO	Contractor Safety Orientation
CPM	Contractor Project Manager
CPR	Cardiopulmonary Resuscitation
CPS	Contractor Project Superintendent
CSM	Contractor Safety Manager
CSR	Contractor Safety Representative
EPA	Environmental Protection Agency
GVW	Gross Vehicle Weight
HEPA	High Efficiency Particulate Air
JHA	Job Hazard Analysis
LBP	Lead-Based Paint
LEL	Lower Explosive Limit
LTV	Lock-Tag-Verify
MUTCD	Manual on Uniform Traffic Control Devices
NFPA	National Fire Protection Association
OC SAN	Orange County Sanitation District
OSHA	Cal/OSHA and/or Federal OSHA (refer to context)
PAE	Primary Authorized Employee
PACM	Presumed Asbestos Containing Materials
PPE	Personal Protective Equipment
RPM	Revolutions Per Minute
SCAQMD	South Coast Air Quality Management District
SDS	Safety Data Sheet
SPM	Subcontractor Project Manager
SPS	Subcontractor Project Superintendent
SSM	Subcontractor Safety Manager
SSR	Subcontractor Safety Representative
SSSP	Site Specific Safety Program
USDOT	United States Department of Transportation
WATCH	Work Area Traffic Control Handbook

ATTACHMENT 9

HUMAN RESOURCES POLICIES

HUMAN RESOURCES POLICIES

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**Harassment & Discrimination
Policy No. 1.1**

 Orange County Sanitation District Personnel Policies	Policy Number: 1.1
	Effective Date: March 22, 2023
Subject: Harassment & Discrimination	Supersedes: September 26, 2018
	Approved by: General Manager

1.0 PURPOSE

- 1.1 The purpose of this policy is to provide a working environment for all employees, contractors, interns, volunteers, and temporary workers that is free of harassment and discriminatory behavior, whether based on race, color, religion, sex (including pregnancy, childbirth, and breastfeeding), sexual orientation, age, national origin, ancestry, actual or perceived disability, medical condition, genetic information, military and veteran status, marital status, gender, gender identity, gender expression, exercise of rights relating to any legally-provided leave of absence, or any other legally protected basis.

2.0 ORGANIZATIONAL UNITS AFFECTED

- 2.1 This policy applies to all Orange County Sanitation District (OC San) employees, applicants, and all persons who perform services for the OC San, including interns, volunteers, and persons working under contract.

3.0 DEFINITIONS

- 3.1 Discrimination is the unfavorable or unfair treatment of a person in the work environment, based on a legally protected class.
- 3.2 Harassment includes premising the granting or denial of employment benefits on the acceptance of unwanted verbal or physical conduct or verbal, physical or visual conduct based on a legally protected class that is so severe and/or pervasive that it creates a hostile or abusive working environment, and interferes with an employee's ability to do his or her job.
- 3.3 Legally Protected Class includes race, religious creed, color, national origin, ancestry, physical or mental disability, medical condition, genetic information, marital status, sex (including pregnancy, childbirth, and breastfeeding), gender, gender identity, gender expression, age (40 years or older), sexual orientation, military and veteran status, and exercise of rights relating to any legally-provided leave of absence.
- 3.4 Sex includes, but is not limited to, pregnancy or medical conditions related to pregnancy, childbirth or medical conditions related to childbirth, breastfeeding or medical conditions related to breastfeeding. "Sex" also includes, but is not limited to, a person's gender.
- 3.5 Sexual Harassment may involve the behavior of a person of either sex against a person of the opposite or same sex, and occurs when such behavior constitutes unwelcome sexual advances, unwelcome requests for sexual favors, and other unwelcome verbal, physical, or visual behavior of a sexual nature where:

- 3.5.1 Submission to such conduct is made either explicitly or implicitly a term or condition of an individual's current or future employment;
- 3.5.2 Submission to or rejection of such conduct by an individual is used as the basis for employment decisions affecting the individual's welfare; or
- 3.5.3 Such conduct has the purpose or effect of substantially interfering with an individual's welfare or work performance, or creates an intimidating, hostile, offensive, and/or demeaning work environment.
- 3.5.4 Prohibited acts that constitute sexual harassment may take a variety of forms.

4.0 POLICY

- 4.2 OC San does not tolerate any form of harassment or discrimination and is committed to providing a work environment that is free of harassment and discrimination.
- 4.3 OC San is an Equal Opportunity Employer, and does not discriminate against any person in matters of employment, application for employment, participation in programs and benefits, or in the application of rules and regulations with regard to any legally protected class.
- 4.4 All OC San employees, contractors, interns, volunteers, and temporary workers are expected to support and comply with this policy. Any supervisor or manager observing or knowing of a harassing situation shall take immediate action to stop it and report the matter.
- 4.5 Supervisory and management personnel who receive reports of harassment or discrimination are expected to take all such complaints seriously, report the complaint to the Director of Human Resources, and take immediate steps to implement this policy in accordance with the provisions contained herein.
- 4.5 OC San will also take reasonable steps to prevent or eliminate reported discrimination or harassment by non-employees, including vendors and contractors, who are likely to have workplace interactions with employees.
- 4.6 No employee shall be subjected to any form of retaliation for reporting any violation of this policy when it is reported truthfully and in good faith. A report is made in good faith when the complainant reasonably believes there is a violation of policy.
- 4.7 Hostile Work Environment An environment may be hostile if unwelcome behaviors, sexual or other, are directed specifically at an individual or if an individual witnesses unlawful harassment in his/her immediate surroundings.
- 4.8 **Examples of Prohibited Behavior**
 - 4.8.1 Examples of the kinds of conduct that may constitute harassment when based on a legally protected class as defined in this policy include but are not limited to:
 - 4.8.1.1 Verbal conduct such as racial epithets, demeaning comments of a personal nature, derogatory jokes, slurs, yelling, screaming, intimidation, threats or stereotypical statements.

- 4.8.1.2 Patronizing or ridiculing statements that convey derogatory attitudes about a particular gender.
- 4.8.1.3 Displaying or distributing posters, cartoons, computer graphics or electronic media transmissions containing material that could be viewed as offensive.
- 4.8.1.4 Physical contact such as assault, unwanted touching, blocking normal movement, pushing or interfering with work because of sex, race or any other protected basis.
- 4.8.1.5 Retaliation for having reported or threatened to report harassment.
- 4.8.2 Examples of the kinds of conduct that may constitute sexual harassment include, but are not limited to:
 - 4.8.2.1 Unwelcome sexual propositions, invitations, solicitations, flirtations and gestures.
 - 4.8.2.2 Threats or insinuations that a person's employment, wages, promotional opportunities, or other conditions of employment may be adversely affected by not submitting to sexual advances.
 - 4.8.2.3 Unwelcome verbal expressions of a sexual nature, including graphic sexual commentaries about a person's body, dress, appearance or sexual activities; the unwelcome use of sexually degrading language, jokes or innuendoes; unwelcome suggestive or insulting sounds or whistles; leering.
 - 4.8.2.4 Sexually suggestive objects, pictures, videotapes, audio recordings or literature placed in the work area which may embarrass or offend individuals.
 - 4.8.2.5 Unwelcome touching, patting, or pinching.
 - 4.8.2.6 Romantic or sexual relationships between supervisors and subordinate employees are discouraged. There is an inherent imbalance of power and potential for exploitation in such relationships. The relationship may create an appearance of impropriety and lead to charges of favoritism by other employees. A welcome sexual relationship may change with the result that sexual conduct which was once welcome becomes unwelcome and harassing.

5.0 PROCEDURE

- 5.1 Any employee who believes that he or she has been the victim of conduct prohibited by this policy must immediately report the matter, verbally or in writing, to his or her supervisor or manager, or to any other supervisor or manager, including the General Manager or Assistant General Manager, or to the Human Resources Department.
- 5.2 All reported incidents of harassment, discrimination and/or retaliation will be fairly, timely and thoroughly investigated, and appropriate corrective action will be taken based on the findings of the investigation.

- 5.3 OC San will document and track the complaint's progress and inform the complainant that the investigation has concluded, each issue was thoroughly investigated, and the outcome (sustained, or not sustained).
- 5.4 Investigations will be conducted in such a way as to maintain confidentiality to the extent practicable under the circumstances and permissible under the law.
- 5.5 It is important to be aware that under the California Fair Employment and Housing Act ("FEHA"), employees may be held personally liable for any acts of unlawful harassment.

6.0 EXCEPTIONS

- 6.1 Any employee who knowingly files a false and malicious report of harassment, as opposed to a complaint which, even if erroneous, is made in good faith; or anyone who fails to report an actual or perceived form of harassment or discrimination as outlined in this policy, may be subject to appropriate disciplinary action, up to and including termination.

7.0 PROVISIONS AND CONDITIONS

8.0 RELATED DOCUMENTS

- 8.2 U.S. and California State Constitutions
- 8.3 Title VII of the Civil Rights Act of 1964
- 8.4 California Fair Employment and Housing Act (FEHA)
- 8.5 Policy 1.2, Retaliation & Whistleblowing
- 8.6 Policy 1.3, Workplace Violence & Weapons
- 8.7 Policy 5.1, Rules of Conduct

**Retaliation & Whistleblowing
Policy No. 1.2**

 Orange County Sanitation District Personnel Policies	Policy Number: 1.2
	Effective Date: March 22, 2023
Subject: Retaliation & Whistleblowing	Supersedes: September 26, 2018
	Approved by: General Manager

1.0 PURPOSE

- 1.1 The purpose of this policy is to establish uniform guidelines and procedures prohibiting retaliation against individuals who report or participate in the investigation of a report of discrimination, harassment, or individuals who engage in whistleblowing, or a protected activity as defined herein.

2.0 ORGANIZATIONAL UNITS AFFECTED

- 2.1 This policy applies to all Orange County Sanitation District (OC San) employees, potential employees, volunteers, interns, and all persons who perform services for OC San, including persons working under contract.

3.0 DEFINITIONS

- 3.1 Retaliation means that a supervisor or manager has taken action(s) toward an individual for engaging in protected activity described within this policy, wherein the action(s) have a substantial and material impact on an employee's terms and conditions of employment. Depending on the facts, it may be retaliatory if action, is taken because of the following, but not limited to, unfounded discipline, failure to promote, failure to hire, termination of a contract, inaccurate poor performance evaluations, arbitrarily changing work assignments, or arbitrarily changing work locations.
- 3.2 Whistleblowing refers to the act of an employee who discloses information to a government or law enforcement authority or to a supervisor or other person responsible for investigating, discovering, or correcting such matters, where the employee has reasonable cause to believe that the information reveals (1) violations or non-compliance with state or federal statutes; (2) unfair labor practices; (3) billing for services not performed or for goods not delivered; (4) gross mismanagement, significant waste of funds, and abuse of authority; and/or (5) a substantial and specific danger to the public health, safety or unsafe working conditions.

4.0 POLICY

- 4.1 It is OC San's policy to prohibit retaliation or reprisals towards employees, prospective employees and outside contractors who engage in, the following protected activities:
 - 4.1.1 Disclosing information to a government or law enforcement agency or internally to OC San, where there is reasonable cause to believe that the information discloses a violation of state or federal statute or non-compliance with a state or federal regulation.
 - 4.1.2 Disclosing the filing of a false claim for money, goods, or services to OC San.

- 4.1.3 Filing a written complaint, under penalty of perjury, of gross mismanagement, a significant waste of funds, an abuse of authority or a substantial and specific danger to public health or safety.
 - 4.1.4 Complaints of discrimination or harassment or any other conduct prohibited by the Fair Employment and Housing Act (FEHA) or related federal laws.
 - 4.1.5 Complaints about an unfair labor practice.
 - 4.1.6 Participating in an administrative investigation either as the complainant, a witness or the accused, or conducting an administrative investigation.
- 4.2 Any employee who, in good faith, reports an alleged incident involving the protected activities described in this policy, under no circumstances, shall be subjected to reprisal or retaliation of any kind. A report is made in good faith when the complainant has reasonable cause to believe there is a violation of policy.

5.0 PROCEDURE

- 5.1 OC San policy requires employees to report all perceived incidents of retaliation, or conditions justifying whistleblowing, regardless of the offender's identity or position.
- 5.2 Any employee who believes that he or she has been the victim of retaliation prohibited by this policy should report the matter to his or her supervisor or manager, or to any other supervisor or manager, including the General Manager or Assistant General Manager.
- 5.3 Reports of retaliation will be investigated fairly, timely, and thoroughly. The investigation may include individual interviews with the parties involved and, where, necessary, with individuals who may have observed the alleged conduct or may have other relevant knowledge.
- 5.4 Confidentiality will be maintained throughout the investigatory process to the extent permissible under the circumstances and consistent with applicable law.
- 5.5 No fixed report period has been established. However, prompt reporting of complaints or concerns have proven to be the most effective method in finding rapid and constructive action and resolution.

6.0 EXCEPTIONS

- 6.1 An employee who knowingly files a false and malicious report of retaliation, as opposed to a complaint which, even if erroneous, is made in good faith may be the subject of appropriate disciplinary action, up to and including termination.

7.0 PROVISIONS AND CONDITIONS

8.0 RELATED DOCUMENTS

- 8.1 Policy 1.1, Harassment & Discrimination
- 8.2 Policy 1.8, Conflict of Interest & Business Ethics
- 8.3 Policy 5.1, Rules of Conduct

**Workplace Violence & Weapons
Policy No. 1.3**

 Orange County Sanitation District Personnel Policies	Policy Number: 1.3
	Effective Date: March 22, 2023
Subject: Workplace Violence & Weapons	Supersedes: September 26, 2018
	Approved by: General Manager

1.0 PURPOSE

- 1.1 The purpose of this policy is to promote a safe work environment for all employees; establish and maintain a workplace that is free from violence, threats of violence, harassment, intimidation, and other disruptive behavior; and encourage and foster a workplace that is characterized by respect and the use of acceptable conflict resolution techniques.

2.0 ORGANIZATIONAL UNITS AFFECTED

- 2.1 This policy applies to all OC San employees, regardless of their organizational unit. Additionally, all persons who perform any services for OC San, regardless of their employment status, are subject to the provisions of this policy while on OC San property or while performing OC San business.

3.0 DEFINITIONS

- 3.1 Workplace Violence includes threats, violent behavior, harassment, intimidation and other disruptive behavior, direct, indirect, implied or actual from any person, and directed toward any person, occurring either at an OC San facility or in connection with the conduct of OC San business without regard to location.

4.0 POLICY

- 4.1 It is OC San policy to provide a safe work environment for its employees. OC San is committed to working with its employees to maintain a workplace free from violence, threats of violence, harassment, intimidation, and other disruptive behavior, and the commission of such acts are prohibited.
- 4.2 All employees are responsible for maintaining a safe work environment.
- 4.3 Violence, threats, harassment, intimidation, and other disruptive behavior in the OC San workplace will not be tolerated; furthermore, all reports of these types of incidents will be seriously reviewed and will be appropriately resolved.
- 4.4 This policy applies to all incidents involving OC San employees while they are on duty, on or off plant sites, and incidents involving non-employees perpetrating violence against OC San employees while they are on duty.
- 4.5 Available conflict resolution techniques, such as problem solving, grievance procedures and appeals processes, will be used to appropriately resolve conflicts that arise in the OC San workplace.

- 4.6 OC San strictly prohibits persons, excluding armed security services, from possessing weapons including, but not limited to, firearms, explosives, knives, clubs and incendiary devices on OC San premises, in OC San vehicles, in private vehicles parked on OC San property, and in the possession of OC San employees while on duty performing OC San related business assignments.
- 4.7 An employee who displays/exhibits prohibited conduct as set forth under this policy may be subject to disciplinary action, up to and including termination, regardless of the employee's past performance, prior discipline, length of service or work history.
- 4.8 Persons who engage in prohibited conduct may also be subject to legal action by law enforcement authorities.
- 4.9 The following examples, while not all-inclusive, are considered prohibited conduct and subject an employee to disciplinary action, up to and including termination, for even a first-time offense.

4.9.1 Prohibited Conduct

- 4.9.1.1 Causing physical injury to another person;
- 4.9.1.2 Making threatening remarks, whether with intent to harm or in jest;
- 4.9.1.3 Aggressive, hostile or harassing behavior that creates a reasonable fear of injury to another person or subjects another individual to emotional distress;
- 4.9.1.4 Intentionally damaging employer property or the property of another individual;
- 4.9.1.5 Possession of a weapon while on OC San property or while on OC San business; or,
- 4.9.1.6 Committing acts motivated by, or related to, sexual harassment or domestic violence,
- 4.9.1.7 Other acts or threats of violence as determined by OC San.

5.0 PROCEDURE

- 5.1 Reporting: If the incident involves an emergency and requires the direct intervention of public safety personnel (i.e., law enforcement or emergency medical services), immediately **CALL** extension **2222**.
 - 5.1.1 Control Center personnel will contact emergency services via **911** and will coordinate the response of public safety personnel and onsite security personnel.
- 5.2 Any situation involving the commission or threat of violence, harassment, intimidation, other disruptive behavior, possession of a weapon or any other potentially dangerous situation must be promptly reported to a supervisor, manager, or the Human Resources Department.

5.3 Risk Reduction Measures

- 5.3.1 Employees at Risk: Employees are expected to exercise good judgement and to notify their supervisor, manager, or the Human Resources Department if a co-worker, or other person on OC San property or place of business, exhibits behavior that could be a sign of potentially dangerous situations. Such behavior includes, but is not limited to, the following:
 - 5.3.1.1 Discussing the use of weapons as a means to perpetrate violence against another or bringing them to the workplace;
 - 5.3.1.2 Displaying overt signs of extreme stress, resentment, hostility or anger;
 - 5.3.1.3 Making threatening statements or remarks;
 - 5.3.1.4 Sudden or significant deterioration in work performance;
 - 5.3.1.5 Displaying irrational or inappropriate behavior.
- 5.3.2 Hiring: The Human Resources Department takes reasonable measures to conduct background investigations in order to review candidates' backgrounds and to reduce the risk of hiring individuals with a history of violent behavior.
- 5.3.3 Enforcement: Threats, threatening conduct, harassment, or any other act of aggression or violence within the OC San work environment will not be tolerated. All reports of these types of incidents will be fairly, timely, and thoroughly investigated and will be appropriately resolved.
 - 5.3.3.1 Any employee determined to have committed such acts will be subject to disciplinary action, up to and including termination.
 - 5.3.3.2 Non-employees engaged in violent acts on OC San premises will be immediately removed from OC San and promptly reported to the proper authorities.

6.0 EXCEPTIONS

- 6.1 Knives traditionally used as tools and having a blade length of three and one-half (3¹/₂) inches or less are only considered weapons when used or displayed in a threatening manner. Knives greater than three and one-half (3¹/₂) inches in blade length are considered weapons as a matter of policy, unless used with approval by OC San management.

7.0 PROVISIONS AND CONDITIONS

8.0 RELATED DOCUMENTS

- 8.1 Policy 1.1, Harassment & Discrimination
- 8.2 Policy 5.1, Rules of Conduct
- 8.3 Policy 5.2, Discipline

Nepotism
Policy No. 1.6

 Orange County Sanitation District Personnel Policies	Policy Number: 1.6
	Effective Date: March 22, 2023
Subject: Nepotism	Supersedes: September 26, 2018
	Approved by: General Manager

1.0 PURPOSE

- 1.1 The purpose of this policy is to avoid the possibility of nepotism in hiring, promoting, evaluating, awarding salary, and disciplining employees and to ensure that employment decisions are based on the individual's qualifications for the position, ability, and performance.
- 1.2 OC San does not tolerate favoritism, the appearance of favoritism, conflicts of interest or the appearance of conflicts of interest in employment and personnel decisions.

2.0 ORGANIZATIONAL UNITS AFFECTED

- 2.1 This policy applies to all Orange County Sanitation District (OC San) employees regardless of their organizational unit, and employment applicants. Additionally, all persons who perform any services for OC San including persons working under contract, regardless of their employment status, are covered by this policy.

3.0 DEFINITIONS

- 3.1 Near relative means a relative within the third degree by blood or marriage, including an individual's:

spouse	grandparent	nephew
fiancée	grandchild	cousin
domestic partner	great-grandparent	sister-in-law
parent/stepparent	great-grandchild	brother-in-law
sister/stepsister	aunt	son-in-law
brother/stepbrother	uncle	daughter-in-law
child/stepchild	niece	dependent

Near relatives shall also include persons who fall into the above categories by a previous marriage or adoption.

- 3.2 Supervisory Relationship means a supervisor-subordinate relationship between near relative employees, whether direct or indirect, that has the ability to impact the terms and conditions of employment, including, but not limited to, appointment, transfer, promotion, demotion, layoff, suspension, termination, recall, work assignments, performance evaluations, merit increases, training, or any other administrative action that may affect an employee; or near relatives reporting to the same immediate supervisor.

4.0 POLICY

- 4.1 It is the policy of OC San not to discriminate in its employment and personnel actions with respect to its employees and applicants on the basis of marital and familial status.
- 4.2 Notwithstanding the above statement, OC San retains the right to refuse to appoint a person to a position in the same department, division or facility, wherein his or her relationship to another employee has the potential for creating an adverse impact on supervision, safety, security, or morale, or involves a potential conflict of interest. The department head shall have the authority and responsibility for determining if such a potential for adverse impact exists or does not exist.
- 4.3 Near relatives of employees or of members of the Board of Directors shall not be hired, promoted or transferred into positions in which one near relative may supervise, directly or indirectly, any other relative, or work in a capacity which would allow an employee to evaluate or control the terms, conditions or performance circumstances of employment of a near relative.
- 4.4 Near relatives of members of the Board of Directors shall not be employed in any position where there is a potential for adversely impacting the safety, security, morale or efficiency of supervision of other employees, or in which there may be created a potential conflict of interest.
- 4.5 No person shall be appointed, promoted, demoted, flexibly placed, or transferred to any position, whether exempt, permanent, provisional, acting, part-time, or temporary, in any division of any department, where such person's near relative already holds a position which would create a supervisory relationship.
- 4.6 No employee shall interview, recommend, or in any way be involved in the selection or disciplinary process of his or her near relative.
- 4.7 All current employees of OC San on the effective date of this policy will not be allowed to remain in positions where they are in a supervisory relationship with a near relative, except in those situations where a direct level of supervision or the ability to impact the terms or conditions of employment of a relative does not occur.
- 4.8 There shall be no appointments to any position at OC San of a near relative of any member of the Board of Directors or Executive Management Team without the express written approval of the Chair of the Board of Directors and the General Manager.
- 4.9 Any individual having appointive power shall not appoint or promote any of their near relatives to any position at OC San.
- 4.10 Hiring, reinstatement, promotion or transfer which will result in near relatives of employees working in the same department may be permitted, but only in such cases where direct supervision or the ability to impact the terms or conditions of employment of the near relative does not exist.
- 4.11 In cases whereby persons who are near relatives are employed in the same department, action shall be taken by the Department Head, Division Manager, or Supervisor to protect against situations which:

- may interfere with response to public health emergencies;
 - may adversely impact working conditions;
 - may jeopardize confidentiality; and,
 - may suggest a conflict of interest.
- 4.12 Remedies to the cases referred to in Section 4.11 may include, but are not necessarily limited to, shift change, reassignment to another position or location, transfer, or a case-by-case basis, possible termination of one of the involved employees.
- 4.13 All appointments, transfers or promotions of near relatives under this policy will be evaluated under guidance of this policy and in terms of the extent to which the relationship could have an adverse effect on the operations of OC San. This policy does not necessarily preclude the near relative or an OC San employee applying for an OC San position or promotion. The policy provides that the General Manager, or designee, may withhold approval to appoint a relative if such an appointment is not in the best interest of OC San or does not follow this policy.
- 4.14 In those cases in which the aforementioned relationships exist, or in which employees marry or acquire a covered relationship, the Human Resources Department shall be responsible to ensure that work assignments are made or other steps taken so as to avoid conflicts of interest or violation of this policy. If no conflict of interest exists because employees have no working interrelationship, supervisory or evaluative control over one another, no action shall be necessary. If conflict exists, action may include reassignment to another position, work location, or work shift. If such reassignment or other alternative is not deemed appropriate by OC San, one of the conflicted individuals may have to resign or be terminated.
- 4.15 Employees are responsible for immediately notifying their supervisor or the Human Resources Department of an impending marriage or the establishment of a near relative relationship with another employee of OC San as specified in Section 3.1.
- 4.16 No persons who have a near relative working at OC San may be hired without the approval of the General Manager, or designee. No OC San employee who is related to any other OC San employee may be transferred or promoted within OC San without the approval of the General Manager, or designee.
- 4.17 The General Manager is responsible for enforcing this policy with the assistance of the Human Resources Department.
- 4.18 OC San reserves the right to take action when relationships or associations of employees impact its mission.
- 4.19 OC San retains the right to refuse to place a relative under the direct supervision of an OC San employee, or place relatives in the same department, division, or facility, where such has a potential for creating an adverse impact on supervision, safety, security or morale.
- 4.20 OC San will make reasonable efforts to assign job duties to eliminate any potential for an adverse impact on supervision, safety, security or morale, or potential conflicts of interest.

- 4.21 Except as otherwise provided by law or this policy, no employee, prospective employee or applicant shall be excluded from the competitive hiring and examination process or denied employment or benefits of employment solely on the basis of his or her familial relationship with an employee of the agency or a member of the Board of Directors.

5.0 PROCEDURE

- 5.1 OC San employees shall submit the Near Relative Notification form, which is attached to this policy, to the Human Resources Department within 30-days of the effective date of this policy, if they currently have near relatives working for OC San or within 30-days of becoming a near relative of another OC San employee. Failure by an employee to complete and submit the required Near Relative Notification to the Human Resources Department may be grounds for disciplinary action, up to and including termination of employment.
- 5.2 If the Human Resources Department determines that employment of near relatives in a supervisory relationship violates this policy, the Human Resources Department may transfer one of the employees to a vacant position in another division or department for which he or she is qualified. The determination of which employee will be transferred will be based upon the promotion of effective and efficient operations of OC San. Transfer must be to the same or equivalent position in another department without loss of classification, salary or benefits to the employee who is transferred.
- 5.3 Any employee, contractor, or member of the Board of Directors who knowingly violates this policy may be subject to disciplinary action, up to and including the cessation of the respective relationship with OC San.
- 5.4 In cases involving a near relative of a member of the Board of Directors, the matter will be referred to the Steering Committee, General Manager, and General Counsel for resolution.

6.0 EXCEPTIONS

- 6.1 The General Manager may authorize exceptions to this policy whenever he or she determines that the best interests of OC San so require. If an exception is granted, it shall be in writing and a copy placed in the employee's personnel file.

7.0 PROVISIONS AND CONDITIONS

8.0 RELATED DOCUMENTS

- 8.1 Near Relative Notification Form
- 8.2 Policy 1.4, Recruitment & Selection

Orange County Sanitation District

NEAR RELATIVE NOTIFICATION

EMPLOYEE INFORMATION	
Employee Name:	
Job Title:	Phone Number:
Department:	Division:

NEAR RELATIVE INFORMATION	
Near Relative Name:	
Job Title:	Relationship:
Department:	Division:
Check all that apply: 1. None: ☐ 2. Supervisory Relationship: ☐ Direct ☐ Indirect ☐ Same supervisor 3. Sharing of Duties: ☐ On the same work assignment ☐ Related work assignments 4. Other (<i>identify</i>):	

Note: Attach separate sheet for additional Near Relatives.

I hereby certify that this is a true and correct statement and that I have identified all of my near relatives who work for the Orange County Sanitation District in any and all capacities.

Signature: _____ Date: _____

**Substance Abuse
Policy No. 5.20**

 Orange County Sanitation District Personnel Policies	Policy Number: 5.20
	Effective Date: March 22, 2023
Subject: Substance Abuse	Supersedes: September 26, 2018
	Approved by: General Manager

1.0 PURPOSE

- 1.1 To establish and maintain a drug and alcohol-free workplace.
- 1.2 To reduce the incidences of accidental injury to person or property.
- 1.3 To reduce absenteeism, tardiness, and indifferent job performance.
- 1.4 To provide assistance towards rehabilitation for any employee who seeks Orange County Sanitation District (OC San) help in overcoming addiction to, dependence on or problems with alcohol or drugs.
- 1.5 To maintain a work environment free of alcohol and drug related performance problems, accidents, and injuries.

2.0 ORGANIZATIONAL UNITS AFFECTED

- 2.1 This policy applies to all OC San employees, regardless of their organizational unit. Additionally, all persons who perform any services for OC San, regardless of their employment status, are subject to the provisions of this policy while on OC San property or while performing OC San business.

3.0 DEFINITIONS

- 3.1 Criminal Drug Statute - Any state or federal criminal law involving the manufacture, distribution, dispensation, use, or possession of a controlled substance.
- 3.2 Illegal Drugs - Any drug (a) that is not legally obtainable or (b) that is legally obtainable but has not been legally obtained. The term includes, but is not limited to, cocaine, crystal methamphetamine, heroin, and PCP. It includes prescribed drugs not legally obtained and prescribed drugs not being used for prescribed purposes. It includes controlled substances as defined in the federal Controlled Substance Act. It also includes any substance, which a person holds out to another as an illegal drug, whether or not the substance itself is illegal.
- 3.3 Legal Drugs - Legal drugs include prescribed drugs and over-the-counter drugs, which have been legally obtained and are being used for the purpose for which they were prescribed and manufactured.
- 3.4 Need to Know - A term applied to persons who may reasonably be expected to base administrative managerial, or supervisory activity on a given piece of information to which they would not be otherwise entitled.
- 3.5 Paraphernalia - Drug paraphernalia may include pipes, hypodermic needles, bongs, rolling papers, and other items used in the ingestion, consumption, or the preparation for

consumption of illegal drugs.

- 3.6 Reasonable Suspicion - Is a belief, based on objective facts or specific personal observations sufficient to lead a reasonably prudent person to suspect that an employee is under the influence of drugs or alcohol.
- 3.7 Under the Influence - Having the presence of any detectable level of drugs in the body or an alcohol concentration level of .02% or greater.
- 3.8 Controlled Substance – a drug or chemical whose manufacture, possession, or use is regulated under state and/or federal law.

4.0 POLICY

- 4.1 It is the policy of OC San to maintain a safe workplace, which is free of alcohol, marijuana and illegal possession and/or use of drugs. OC San is firmly committed to achieving a drug free workplace and will continue making a good faith effort to achieve an alcohol and drug free workplace by consistently enforcing every element of this policy.

5.0 PROCEDURE

5.1 ILLEGAL DRUGS

- 5.1.1 The sale, purchase, offer to sell or purchase, use, manufacture, distribution, dispensation, or possession of, or being under the influence of, Illegal Drugs during OC San time, or while engaged in OC San business, or on, or in, OC San premises, or property, is prohibited.
- 5.1.2 No employee shall bring drug paraphernalia onto OC San premises or property or into OC San vehicles.

5.2 OTHER DRUGS

- 5.2.1 If an employee has any question or concern as to his or her ability to safely perform the duties of his or her job while taking a legal prescription drug, the employee has an affirmative obligation to report the use of that drug to his/her supervisor, division management, Risk Management or Human Resources staff.
- 5.2.2 Upon receiving such notification, the employee may be temporarily assigned to alternative work duties and/or asked to provide a release to OC San from the employee's physician for a determination of the employee's ability to work while using that drug.
- 5.2.3 An employee may continue to perform his or her regularly assigned job duties, while taking a legal prescription drug, if OC San has determined, on a case-by-case basis, after consulting with the employee's physician, that the employee does not pose a threat to the employee's own safety or to the safety of co-workers, and that the employee's job performance is not adversely affected by the legal prescription drug. Otherwise, the employee may be required to take a leave of absence or comply with other appropriate action determined by management, such as adhering to an employer initiated fitness for duty testing.

5.3 ALCOHOL AND MARIJUANA

- 5.3.1 No alcoholic beverages or recreational marijuana may be brought onto or

consumed on OC San time or property or while wearing an OC San identifiable uniform.

5.4 PROHIBITION AGAINST EMPLOYEES HAVING ILLEGAL DRUGS, MARIJUANA OR ALCOHOL IN THEIR BODIES DURING WORKING TIME

5.4.1 All employees of OC San are expected to report for work with no residue or metabolite of Illegal Drugs or marijuana in the body or alcohol concentration level of .02% or greater. Employees must not have any residue or metabolite of Illegal Drugs or marijuana in the body or alcohol concentration level of .02% or greater at any time while on the job. Compliance with these rules is considered an essential job qualification for all employees.

5.4.1.1 Employees still under the influence of a medication legally prescribed to them that cause a loss of motor skill, reaction time, or decision making must report the use to their supervisor.

5.4.2 When an alcohol screen test indicates an alcohol concentration level of .02% or greater, the employee will be prohibited from performing the duties of his or her job for twenty-four (24) hours. Employees may also face disciplinary action for being under the influence of alcohol if they test positive for alcohol concentration of .02% or greater, subject to the exceptions set forth in Section 14.0.

5.4.3 When a marijuana screen test indicates a marijuana concentration of any amount, the employee will be prohibited from performing the duties of his or her job for twenty-four (24) hours. Employees may also face disciplinary action for being under the influence of marijuana if they test positive for marijuana.

5.4.4 Employees may be subject to discipline up to and including termination for any marijuana test indicating any amount of marijuana or alcohol screen test that indicates an alcohol concentration level of .02% or greater. Refer to Section 14.3 for further information on alcohol screen tests.

5.5 ENFORCEMENT OF RULE PROHIBITING EMPLOYEES FROM HAVING ILLEGAL DRUGS OR ALCOHOL IN THEIR BODIES DURING WORK TIME

5.5.1 POST-EMPLOYMENT OFFER ALCOHOL/DRUG SCREENING

5.5.1.1 After OC San extends a conditional employment offer to a candidate selected through a recruitment process, it will require the prospective employee to pass an alcohol/drug screen test, for specific job classifications, administered by a medical facility designated by OC San.

5.5.1.2 Any prospective employee refusing to submit to such examination shall not be hired by OC San.

5.5.1.3 Any prospective employee failing the alcohol/drug screen test shall be rejected from further consideration from employment with OC San for at least six (6) months.

5.5 REASONABLE SUSPICION ALCOHOL/DRUG SCREENING

5.5.1 Reasonable suspicion shall be determined by a supervisor or manager and, where possible, corroborated by a trained Human Resources representative or other trained management representative.

- 5.5.2 Specific personal observations must be based on a supervisor, manager, or Human Resources representative's direct observations and not hearsay.
- 5.5.3 Objective facts and specific personal observations may be based upon, but are not limited to, the following:
 - 5.5.3.1 Direct observations of substance abuse or symptoms of being under the influence such as: an employee's manner, disposition, muscular movement, appearance, behavior, speech, or breath odor.
 - 5.5.3.2 An employee's possession or use of Illegal Drugs, recreational marijuana, alcohol, or Paraphernalia while on duty, in the workplace or on OC San property, including evidence that an employee has used, possessed, sold, solicited, or transferred drugs while on duty or while on OC San property or while operating an OC San vehicle, machinery, or equipment that is the property of or leased/rented by OC San.
- 5.5.4 The objective facts and specific personal observations upon which reasonable suspicion is based must be documented.
- 5.5.5 When OC San has a reasonable suspicion that an employee is under the influence of drugs or alcohol, the employee shall be required to undergo an alcohol/drug screen test as soon as reasonably achievable. Prior to being transported to the alcohol/drug screen test facility, employees will be given a copy of this policy and informed of their rights to contact an employee representative.
 - 5.5.5.1 An employee's refusal to submit to an alcohol/drug screen test may constitute insubordination and the employee may be subject to discipline up to and including termination.
 - 5.5.5.2 Any employee failing such a test, or who tampers with the test specimen, may be subject to discipline up to and including termination.
 - 5.5.5.3 The Human Resources Department shall arrange for the employee to be transported to the testing facility and then driven home. The employee shall not be permitted to drive while subject to reasonable suspicion testing.
- 5.5.6 Reasonable Suspicion Training
 - 5.5.6.1 OC San shall ensure that managers, supervisors, Human Resources and Risk Management representatives, and/or other designated staff receive training on reasonable suspicion. The training shall include, but will not be limited to, the physical, behavioral, speech, and performance indicators of probable alcohol misuse and use of controlled substances.

5.6 POST ACCIDENT TESTING

- 5.6.1 An employee who directly contributes to a job-related accident or an accident involving OC San property shall be subject to a drug/alcohol screen test as soon as practicable when the accident results in:
 - 5.6.1.1 A fatality;

- 5.6.1.2 The issuance of a citation under State or local law for a moving traffic violation and bodily injury that requires immediate medical treatment away from the scene; or
- 5.6.1.3 The issuance of a citation under State or local law for a moving traffic violation and disabling damage to any vehicle that requires tow away.
- 5.6.1.4 Property damage that occurs on OC San facilities and there is a direct observations of substance abuse or symptoms of being under the influence such as: an employee's manner, disposition, muscular movement, appearance, behavior, speech, or breath odor.

5.7 EMPLOYEE ASSISTANCE PROGRAM

- 5.7.1 OC San policy is to help employees with substance abuse problems who voluntarily seek assistance. Accordingly, OC San provides a method by which employees may come to management without fear of reprisal and seek assistance.
- 5.7.2 Any employee who feels that he or she has developed an addiction to, dependence upon or problem with the use of alcohol or drugs, is encouraged to seek assistance. Assistance may be sought by writing in confidence to, or asking for a personal appointment with the Director of Human Resources.
 - 5.7.2.1 Each request for assistance shall be treated as confidential. Only those persons with a need to know shall be made aware of such requests.
- 5.7.3 Human Resources shall refer employees seeking assistance to an appropriate treatment organization.
- 5.7.4 Rehabilitation is the responsibility of the employee, but any employee seeking medical attention for alcoholism or drug addiction shall be entitled to benefits available under OC San's group medical insurance plans with the restrictions and limits stated in the applicable plan summary. Employees on rehabilitation leave shall be subject to the extended Medical Leave and General Leave of Absence provisions in OC San's Personnel Policies and Procedures.
- 5.7.5 To be eligible for continued employment after rehabilitation, the employee must provide certification that he/she was continuously enrolled in a treatment program and actively participated in that program.
 - 5.7.5.1 Any employee suffering from an alcohol or drug problem who rejects treatment or who leaves a treatment program prior to being properly discharged therefrom shall be dismissed from employment with OC San.
- 5.7.6 Any employee returning to active employment from rehabilitation shall be required to sign a Return to Work Agreement providing:
 - 5.7.6.1 Unannounced testing for a minimum of twelve (12) months to ensure that the employee is free from the alcohol or drug problem.
 - 5.7.6.2 Notice that failure of, or refusal to take, such a test during this period shall constitute just cause for immediate dismissal of the employee.

5.7.6.3 Notice that the employee shall maintain an acceptable attendance and performance record and comply with all other OC San policies upon his/her return to work. Failure to maintain an acceptable attendance and performance record shall constitute just cause for immediate dismissal.

5.7.7 No disciplinary action shall be taken against any employee who, for the first occurrence, comes forward to OC San with his/her problem prior to 1) OC San becoming aware of a violation of the drug and alcohol policy, or 2) a request by OC San to undergo drug testing. However, once OC San learns of a violation of the drug and alcohol policy or the employee tests positive in a drug test, or if there is a reoccurring problem, OC San is not obligated to grant the employee General Leave for rehabilitation. All testing procedures shall be in conformance with National Institute on Drug Abuse standards, and shall be conducted at a reasonable time at OC San's expense.

5.8 INSPECTIONS

5.8.1 In order to ensure the safety of the workplace and the workforce, and to protect and preserve OC San's property, OC San may from time to time inspect OC San's vehicles, tool boxes, lockers, desks, file cabinets and other OC San property.

5.8.2 These inspections may not be announced and employees should have no expectation of privacy with respect to items brought onto OC San property and/or stored in such OC San facilities.

5.8.3 It is a condition of employment for employees to cooperate with these inspections. Refusal to consent to such an inspection amounts to insubordination and may constitute cause for termination.

5.8.4 A representative from Human Resources must be present during any inspection of OC San property due to a reasonable suspicion that the Substance Abuse policy has been violated.

5.9 DRUG CONVICTIONS

5.9.1 All OC San employees or persons performing services for OC San who are convicted under a criminal drug statute for a violation occurring in the workplace are required to notify the Human Resources Department in writing within five (5) calendar days after such conviction.

5.9.2 Pursuant to the Drug Free Workplace Act, the Human Resources Department shall notify the appropriate contracting authority within ten (10) calendar days after learning of an individual's drug conviction from either the individual or any other source. Within thirty (30) calendar days of learning of an individual's drug conviction, OC San shall take appropriate corrective action.

5.10 DEPARTMENT OF TRANSPORTATION (DOT) REGULATIONS

5.10.1 Every driver who operates a commercial motor vehicle in interstate or intrastate commerce, and is subject to the commercial driver's license requirements of the Department of Transportation (DOT), Federal Highway Administration CFR Part 382 is subject to OC San's Anti-Drug and Alcohol Program. OC San will ensure that all alcohol or controlled substances testing conducted under the Substance Abuse and Alcohol Misuse Plan complies with the procedures set forth in CFR

Part 40.

- 5.10.2 Any employee promoted, reassigned or transferred into a classification subject to the Department of Transportation requirements will be required to successfully complete alcohol and controlled substance testing prior to assuming the position.

5.11 **DRUG FREE AWARENESS PROGRAM**

- 5.11.1 OC San shall require all employees to attend biannual Reasonable Suspicion Training which shall include a module on Drug Free Awareness informing employees about the dangers of drug abuse in the workplace, OC San's Substance Abuse Policy, available counseling, rehabilitation, and employee assistance programs available through OC San, and the penalties for violating OC San's Substance Abuse Policy.

5.12 **POLICY DISTRIBUTION**

- 5.12.1 Copies of this policy shall be disseminated to current employees in biannual Prevention of Workplace Violence training and later hired employees in New Employee Orientation. Acknowledgement forms shall be included with the policy copy to be signed by employees and filed in personnel files. Temporary/contract workers shall receive a copy of this policy and an acknowledgment form through their employers. Signed temporary/contract worker acknowledgement forms shall be filed in the Human Resources Department.

5.13 **DISCIPLINARY ACTION**

- 5.13.1 Except as otherwise provided in Section 5.7, violation of the Substance Abuse Policy may result in disciplinary action, up to and including termination, even for a first offense.

6.0 EXCEPTIONS

- 6.1 If any portion of this policy is found to be at variance with the provisions of an approved Memorandum of Understanding (MOU), the MOU provisions shall prevail with respect to employees in the affected bargaining unit.
- 6.2 It will not be considered a violation of this policy for employees to store sealed alcoholic beverages in their personal vehicle as long as such storage is out of public view and does not remain in the vehicle for more than the period of one (1) consecutive work day. Further, sealed alcoholic beverages must remain in the employee's vehicle out of public view at all times while on OCSD property.
- 6.3 If an alcohol screen test indicates an alcohol concentration level of .02% or greater but less than .04%, the employee will not be subject to discipline if the following conditions apply:
- 6.3.1 The employee holds a position that is not subject to DOT regulations; and
- 6.3.2 It is the first time the employee has received an alcohol screen test indicating an alcohol concentration level of .02% or greater.

7.0 PROVISIONS AND CONDITIONS

- 7.1 No employee shall be eligible for rehabilitation under the employee assistance program

more than one time. The reoccurrence of an alcohol or drug problem shall be cause for dismissal.

- 7.2 Under no circumstances shall the testing process be delayed due to the unavailability of an employee representative.

8.0 RELATED DOCUMENTS

- 8.1 OC San's Substance Abuse and Alcohol Misuse Plan - DOT CFR Part 40
- 8.2 Drug Free Workplace Act
- 8.3 Substance Abuse Policy Acknowledgement Forms
- 8.4 Reasonable Suspicion Checklist
- 8.5 Policy 1.4, Recruitment & Selection
- 8.6 Policy 4.8, Employee Assistance Program
- 8.7 Policy 5.1, Rules of Conduct
- 8.8 Policy 5.2, Discipline
- 8.9 Policy 5.19, Vehicle Usage
- 8.10 Safety Policy 202 – (Accident Investigation and Reporting)
- 8.11 The Americans with Disabilities Act Amendments Act of 2008

**Smoking
Policy No. 5.21**

 Orange County Sanitation District Personnel Policies	Policy Number: 5.21
	Effective Date: March 22, 2023
Subject: Smoking	Supersedes: September 26, 2018
	Approved by: General Manager

1.0 PURPOSE

- 1.1 This policy has been developed to protect employees and the general public from the dangers of second-hand smoke and the potential hazards associated with ignition sources near plant process areas or pump stations.

2.0 ORGANIZATIONAL UNITS AFFECTED

- 2.1 This policy applies to all Orange County Sanitation District (OC San) employees, contractors, and the general public who are on OC San property.

3.0 DEFINITIONS

- 3.1 Plant Process Areas – An area, structure or pipe within OC San facilities where wastewater, biosolids, digester gas, or grit are collected, treated, stored, transported or discharge to include all OC San pump stations.
- 3.2 OC San Vehicles – All OC San owned or leased cars, trucks, carts, bicycles, and special motorized equipment.
- 3.3 Designated Smoking Areas – Locations where smoking is permitted.
- 3.4 Smoking – The inhaling, exhaling, burning, or carrying of any lighted or heated cigar, cigarette, or pipe, or any other lighted or heated tobacco or plant product intended for inhalation, whether natural or synthetic, in any manner or in any form. This includes the use of an electronic smoking device that creates an aerosol or vapor, in any manner or in any form, or the use of any oral smoking device for the purpose of circumventing the prohibition of smoking.

4.0 POLICY

4.2 GENERAL INFORMATION

- 4.2.1 OC San provides designated smoking areas that meet regulatory requirements and the operational needs of the organization. This policy defines employee, contractor, and general public conduct as it relates to smoking in or on all OC San property.

4.3 EMPLOYEE, CONTRACTOR AND PUBLIC CONDUCT

- 4.3.1 Smoking on or in all OC San property is only permitted in designated smoking areas.
- 4.3.2 OC San employee, contractor, or member of the general public shall not smoke in an OC San building or vehicle.

4.3.3 Failure to comply with this policy may result in to the following:

4.3.3.1 Progressive disciplinary action for OC San employees, which may result in termination for repeated violations.

4.3.3.2 Prohibition of offending contractor personnel from working in an OC San public building, facility or vehicle and/or termination of the contract.

4.3.3.3 Prohibition of an offending member of the general public from remaining in the affected OC San public building or vehicle.

4.3.3.4 Prohibition from coming on to OC San sites.

4.4 LOCATING DESIGNATED SMOKING AREAS

4.4.1 All designated smoking areas shall be clearly marked.

4.4.2 All designated smoking areas shall be located outdoors and at least 20 feet from any building entrance, exit, and/or operable window of an OC San building and within 20 feet of a building ventilation system intake.

4.4.3 Cigarette butt receptacles will be provided by and maintained by OC San.

5.0 PROCEDURE

5.2 Maps of designated smoking areas shall be maintained by the Risk Management Division and the information shall be posted on OC San's intranet.

5.3 Employees are required to contact their immediate supervisor or manager if there are any concerns regarding this policy.

6.0 EXCEPTIONS

7.0 PROVISIONS AND CONDITIONS

8.0 RELATED DOCUMENTS

8.2 California Health and Safety Code § 118885

8.3 California Code of Regulations § 5184

8.4 California Labor Code, Sections 6400-6413.5

8.5 Policy 5.2, Discipline

8.6 Policy 5.19, Vehicle Usage

**Diversity, Equity, and Inclusion
Policy No. 6.6**

 Orange County Sanitation District Personnel Policies	Policy Number: 6.6
	Effective Date: March 22, 2022
Subject: Diversity, Equity, and Inclusion	Supersedes: February 23, 2022
	Approved by: General Manager

1.0 PURPOSE

- 1.1 To ensure OC San maintains a diverse, equitable, and inclusive workplace through objective and consistent standards, rules, programs, procedures, and practices. This policy covers all aspects of employment including, but not limited to, recruitment, hiring, job assignment, promotion, employee benefits, conditions of employment, compensation, transfer, discipline, training, work environment, and termination of employment.

2.0 ORGANIZATIONAL UNITS AFFECTED

- 2.1 This policy applies to all OC San employees, job applicants, and all persons who perform services for OC San, including interns, volunteers, and persons working under contract.

3.0 DEFINITIONS

- 3.1 Discrimination is the unfavorable or unfair treatment of a person in the work environment, based on a legally protected class (as described below).
- 3.2 Diversity is the collective differences and similarities that include individual characteristics, values, beliefs, experiences, backgrounds, preferences, and behaviors that comprise the OC San workforce.
- 3.3 Equity refers to a state where rules, programs, procedures, and practices are applied uniformly regardless of race, color, religion, sex (including pregnancy, childbirth, and breastfeeding), sexual orientation, age, national origin, ancestry, actual or perceived disability, medical condition, genetic information, military and veteran status, marital status, gender, gender identity, gender expression, exercise of rights relating to any legally-provided leave of absence, or any other legally protected basis.
- 3.4 Harassment is defined as: (1) conditioning the granting or denial of employment benefits on the acceptance of unwanted verbal or physical conduct, or (2) creation of a hostile work environment through verbal, physical or visual conduct based on a legally protected class that is severe or pervasive and interferes with an employee's ability to do his or her job.
- 3.5 Inclusion is involving people from a range of different social and ethnic backgrounds, where individuals have equal access to opportunities and resources; where rules, policies, and procedures are applied uniformly; and where the OC San workforce can contribute fully to the organization's success regardless of race, color, religion, sex (including pregnancy, childbirth, and breastfeeding), sexual orientation, age, national origin, ancestry, actual or perceived disability, medical condition, genetic information, military and veteran status, marital status, gender, gender identity, gender expression,

exercise of rights relating to any legally-provided leave of absence, or any other legally protected basis.

- 3.6 Legally Protected Class includes race, religious creed, color, national origin, ancestry, physical or mental disability, medical condition, genetic information, marital status, sex (including pregnancy, childbirth, and breastfeeding), gender, gender identity, gender expression, age (40 years or older), sexual orientation, military and veteran status, and exercise of rights relating to any legally-provided leave of absence.
- 3.7 Sex includes, but is not limited to, pregnancy or medical conditions related to pregnancy, childbirth or medical conditions related to childbirth, breastfeeding or medical conditions related to breastfeeding. "Sex" also includes, but is not limited to, a person's gender.

4.0 POLICY

- 4.1 OC San is an Equal Opportunity Employer and maintains a diverse, equitable, and inclusive workplace through objective and consistent standards, rules, programs, procedures, practices, and established Core Values. Equal opportunity shall apply to all aspects of the employment relationship, including, but not limited to, hiring, promotions, training and development, working conditions, compensation, benefits, and discipline.
- 4.2 All OC San employees, contractors, interns, volunteers, and temporary workers are expected to comply with this policy and all procedures to maintain a diverse, equitable, and inclusive work environment.

5.0 PROCEDURE

- 5.1 All employees are required to interact in a professional, respectful, and courteous manner, in accordance with Core Values, and apply the standards, rules, programs, procedures, practices, in an objective and impartial manner regardless of race, color, religion, sex (including pregnancy, childbirth, and breastfeeding), sexual orientation, age, national origin, ancestry, actual or perceived disability, medical condition, genetic information, military and veteran status, marital status, gender, gender identity, gender expression, exercise of rights relating to any legally-provided leave of absence, or any other legally protected basis.
- 5.2 Managers and supervisors are required to monitor the workplace, recognize conduct potentially in violation of this policy, report any such observations, and take appropriate action to address unacceptable behavior.
- 5.3 Managers and supervisors who receive reports of policy violations from other employees must take all such complaints seriously and provide timely and appropriate follow-up to include reporting the complaint to the Human Resources Department.
- 5.4 Employees who believe they have been subjected to conduct or have observed conduct prohibited by this policy are expected to immediately report the matter, verbally or in writing, to his or her manager or supervisor, or to the Human Resources Department..

6.0 EXCEPTIONS

- 6.1 Any employee who knowingly files a false and malicious report or complaint, as opposed to a complaint which, even if erroneous, is made in good faith; or anyone who

fails to report an actual or perceived form of harassment or discrimination as outlined in this policy, may be subject to appropriate disciplinary action, up to and including termination.

7.0 PROVISIONS AND CONDITIONS

8.0 RELATED DOCUMENTS

- 8.1 U.S. and California State Constitutions
- 8.2 Title VII of the Civil Rights Act of 1964
- 8.3 California Fair Employment and Housing Act
- 8.4 OC San Core Values
- 8.5 Policy 1.1, Harassment & Discrimination
- 8.6 Policy 1.2, Retaliation & Whistleblowing
- 8.7 Policy 1.4, Recruitment & Selection
- 8.8 Policy 2.1, Classification & Compensation
- 8.9 Policy 4.1, Insurance
- 8.10 Policy 4.10, Employee Development
- 8.11 Policy 5.1, Rules of Conduct
- 8.12 Policy 5.2, Discipline
- 8.13 Policy 6.1, Appraisal of Performance
- 8.14 Policy 6.2, Open Communication
- 8.15 Policy 6.4, Problem Solving
- 8.16 Policy 6.5, Grievance Procedure

ATTACHMENT “C”

SKILLED AND TRAINED WORKFORCE CERTIFICATION

ATTACHMENT “C”
SKILLED AND TRAINED WORKFORCE CERTIFICATION
(Submit with Proposal)

The undersigned does hereby certify to the Orange County Sanitation District (“OC SAN”) as follows:

As a condition to being evaluated for selection, Public Contract Code section 22185.3(b)(1) requires Proposer to provide an enforceable commitment to OC SAN that Proposer and its Subcontractors at every tier will use a skilled and trained workforce to perform all Work on the Project that falls within an apprenticeable occupation in the building and construction trades, in accordance with Public Contract Code section 2600 *et seq.*

Proposer has reviewed the skilled and trained workforce requirements under Public Contract Code sections 22185.3(b)(1) and 2600 *et seq.* (as it may be amended from time to time), and Proposer and its Subcontractors at every tier will both comply with the foregoing Public Contract Codes sections and Proposer will provide monthly reports to OC SAN demonstrating that Proposer and its Subcontractors performing Work on the Project are complying with the requirements of Public Contract Code section 2600 *et seq.*

The skilled and trained workforce requirement shall not apply if Proposer provides evidence that Proposer has entered into a project labor agreement that will bind Proposer and all its Subcontractors at every tier performing Work on the Project to use a skilled and trained workforce.

Any person executing this certification on behalf of Proposer that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this certification on behalf of Proposer.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this certification is executed on 11/12/2025 [date], at Escondido [city], CA [state].

Name of Proposer Big Sky Electric/Filanc a Joint Venture

Signature 

Name Omar Rodea

Title Representative

ATTACHMENT “D”

CONFLICT OF INTEREST DISCLAIMER

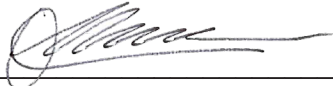
ATTACHMENT "D"
CONFLICT OF INTEREST DISCLAIMER
(Submit with Proposal)

The undersigned, Omar Rodea, declares that
(Print or Type Name)

Big Sky Electric/Filanc a Joint Venture ☐ does have ☒ does not have
(Name of Firm)

Interest; ownership; or receives, or anticipates receiving, remuneration of any type from the manufacturer(s), supplier(s), or distributor(s) which may be recommended on the Project, as listed below.

<u>Firm</u>	<u>Product</u>	<u>Remuneration</u>



Signature of President, Secretary, Partner,
Owner, or Representative

11/12/2025

Date

ATTACHMENT “E”

ACKNOWLEDGEMENT OF ADDENDA RECEIPT

ATTACHMENT "E"
ACKNOWLEDGEMENT OF ADDENDA RECEIPT

(Submit with Proposal)

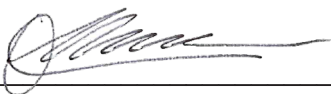
Submitted By: Big Sky Electric/Filanc a Joint Venture
(Name of Firm)

The Orange County Sanitation District (OC SAN) may deem non-responsive any Proposal which fails to acknowledge any addenda issued by OC SAN prior to Proposal submittal.

Addenda number(s) received: 1
(list each addendum by number)

I, Omar Rodea, the Representative
(President, Secretary, Manager, Owner, or Representative)

of Big Sky Electric/Filanc a Joint Venture, hereby acknowledges receipt of all addenda (if any).



Signature of President, Secretary, Manager,
Owner, or Representative

11/12/2025

Date

ATTACHMENT “F”

IRAN CONTRACTING ACT VERIFICATION

ATTACHMENT "F"**IRAN CONTRACTING ACT VERIFICATION**

Public Contract Code sections 2200-2208

(Submit with Proposal)

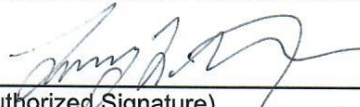
To comply with the Iran Contracting Act of 2010 requirement, complete **one** of the options below.

Option 1 – Certification

I, the official named below, certify I am duly authorized to execute this certification on behalf of the entity identified below and (a) the entity identified below is **not** on the current list of persons engaged in investment activities in Iran created by the California Department of General Services (DGS) and (b) is **not** a financial institution extending twenty million dollars (\$20,000,000) or more in credit to another person/contractor/consultant, for 45 days or more, if that other person/contractor/consultant will use the credit to provide goods or services in the energy sector in Iran and is identified on the current DGS list of persons engaged in investment activities in Iran.

Big Sky Electric, Inc.
Consultant/Contractor/Financial Institution (Printed)

80-0275450
Federal ID Number


By (Authorized Signature)

11/12/2025
Date

Larry Strohm, President
Printed Name and Title of Person Signing

Option 2 – Exemption

Pursuant to Public Contract Code sections 2203(c) and (d), a public entity may permit a contractor/consultant/financial institution engaged in investment activities in Iran, on a case-by-case basis, to be eligible for, or to bid on, submit a proposal for, or enter into or renew a contract for goods and services.

If the entity listed below has obtained an exemption from the certification requirement under the Iran Contracting Act of 2010, complete the information below and attach documentation demonstrating the exemption approval.

Consultant/Contractor/Financial Institution (Printed)

Federal ID Number

By (Authorized Signature)

Date

Printed Name and Title of Person Signing

REQUEST FOR PROPOSALS (1-STEP)

Revision 110221

PROJECT NO. P2-141
HEADWORKS ELECTRICAL DISTRIBUTION IMPROVEMENTS AT PLANT NO. 2

ATTACHMENT “F”

IRAN CONTRACTING ACT VERIFICATION

Public Contract Code sections 2200-2208

(Submit with Proposal)

To comply with the Iran Contracting Act of 2010 requirement, complete **one** of the options below

Option 1 – Certification

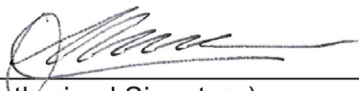
I, the official named below, certify I am duly authorized to execute this certification on behalf of the entity identified below and (a) the entity identified below is **not** on the current list of persons engaged in investment activities in Iran created by the California Department of General Service (DGS) and (b) is **not** a financial institution extending twenty million dollars (\$20,000,000) or more in credit to another person/contractor/consultant, for 45 days or more, if that other person/contractor/consultant will use the credit to provide goods or services in the energy sector in Iran and is identified on the current DGS list of persons engaged in investment activities in Iran.

FILANC

Consultant/Contractor/Financial Institution (Printed)

95-1758372

Federal ID Number



By (Authorized Signature)

11/12/2025

Date

Omar Rodea, President

Printed Name and Title of Person Signing

Option 2 – Exemption

Pursuant to Public Contract Code sections 2203(c) and (d), a public entity may permit a contractor/consultant/financial institution engaged in investment activities in Iran, on a case-by-case basis, to be eligible for, or to bid on, submit a proposal for, or enter into or renew a contract for goods and services.

If the entity listed below has obtained an exemption from the certification requirement under the Iran Contracting Act of 2010, complete the information below and attach documentation demonstrating the exemption approval.

Consultant/Contractor/Financial Institution (Printed)

Federal ID Number

By (Authorized Signature)

Date

Printed Name and Title of Person Signing

ATTACHMENT “G”

**CALIFORNIA AIR RESOURCES BOARD MOBILE
SOURCE CERTIFICATIONS
(NOT INCLUDED)**

ATTACHMENT “H”

ACKNOWLEDGEMENT OF CALIFORNIA VOLUNTARY PROTECTION PROGRAM ANNUAL REPORTING REQUIREMENT

ATTACHMENT "H"

ACKNOWLEDGEMENT OF CALIFORNIA VOLUNTARY PROTECTION PROGRAM ANNUAL REPORTING REQUIREMENT

(Submit with Proposal)

Submitted By: Big Sky Electric/Filanc a Joint Venture
(Name of Firm)

I Omar Rodea, the Representative
President, Secretary, Manager, Owner, or
Representative

of Big Sky Electric/Filanc a Joint Venture, certify that if awarded
Name of Company or Corporation or Owner

the Agreement and if CONSULTANT will potentially work 1,000 combined hours in a quarter, for the term of the Agreement, CONSULTANT shall provide an annual report detailing the CONSULTANT's safety and health information, including, but not limited to, CONSULTANT's total number of employees, work hours, number of injuries and illnesses, and number of injury and illness cases involving days away from work, restricted work activity and/or job transfer by January 20th each calendar year.

Failure to provide the data by the required due date may result in suspension of CONSULTANT's services with OC SAN. Any delay arising out of or resulting from such suspension shall be CONSULTANT's sole responsibility and considered CONSULTANT caused delay, which shall not be compensable by OC SAN.



Signature of President, Secretary, Manager, Owner, or Representative

11/12/2025

Date

ATTACHMENT “I”
PRICE PROPOSAL FORMS
(NOT INCLUDED)

ATTACHMENT “J”
**ACKNOWLEDGEMENT OF PROGRESSIVE DESIGN-
BUILD CONTRACT**
(NOT INCLUDED)

ATTACHMENT “K”
CONFIDENTIALITY AND WAIVER OF PROTEST
AGREEMENT
(NOT INCLUDED)